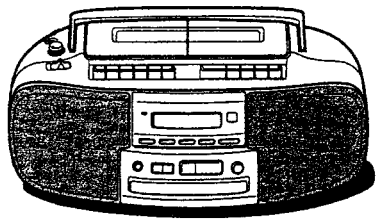
aiwa

aiwa SERVICE

CSD-SR625

SERVICE MANUAL



COMPACT DISC STEREO RAIDIO
CASSETTE RECORDER

- BASIC TAPE MECHANISM: TN-21ZHW-1621
- BASIC CD MECHANISM: 3ZG-3 A7N

•TYPE: EZ,K,HE

SUPPLEMENT

●If requiring the information see Service Manual of CSD-SR615(EZ,EEZ,LH,HE) (S/M Code No. 09-95C-122-50T).

S/M Code No. 09-972-184-80T

MECHANICAL PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF.NO	PART NO.	カンリ NO.	DESCRIPTION
1	S5-438-030-300		PANEL,FRONT
2	S5-438-140-020		KNOB,CD
5	S5-438-040-400		WINDOW,DISPLAY<HE>
5	S5-438-040-300		WINDOW,DISPLAY<EZ,K>
8	S5-438-010-400		CAB,FRONT<HE>
8	S5-438-010-300		CAB,FRONT<EZ,K>
16	S5-438-070-020		CHASS,CD
21	S5-438-060-200		DOOR,CASS(R)
22	S5-438-050-200		DOOR,CASS(L)
23	S5-438-300-200		LENS,DOOR CASS(L)
24	S5-438-310-200		LENS,DOOR CASS(R)
26	S5-438-100-200		PANEL,CD
29	S5-438-090-010		HANDLE
30	S5-438-370-200		PLATE,VOLTAGE<HE>
30	S5-438-410-100		PLATE,VOLTAGE<EZ,K>
31	S5-438-080-020		DOOR,BAT
32	S5-438-020-300		CAB,REAR

ACCESSORIES PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF.NO	PART NO.	カンリ NO.	DESCRIPTION
2	S5-438-910-220		INSTRUCTION BOOK(EZ,K)
2	S5-438-910-310		INSTRUCTION BOOK(HE)

サービス技術ニュース	
番 号	連絡内容
G一 一	
G一 一	
G一 一	

アイワ株式会社
AIWA CO.,LTD.

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912162

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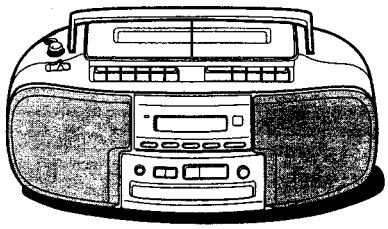
CSD-SR615

SERVICE MANUAL



COMPACT DISC STEREO RAIDIO
CASSETTE RECORDER

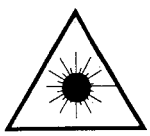
- BASIC TAPE MECHANISM:TN-21ZHW-1621
- BASIC CD MECHANISM:3ZG3-A7N
- TYPE:EEZ,EZ,LH,HE

S/M Code No. 09-95C-122-50T

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

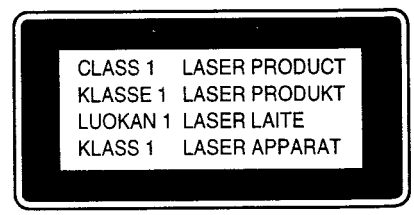
VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!
Usynlig laserstråling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



■ ACCESSORIES / PACKAGE LIST

DESCRIPTION で判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO.	PART NO.	カンリ NO.	DESCRIPTION
⚠1	S1-171-100-000		CORD, POWER<LH>
⚠1	S2-201-100-000		POWER CORD<HE, EEZ, EZ>
2	S5-438-910-200		INSTRUC, BOOK (SR615EEZ) <EEZ, EZ>
2	S5-438-910-300		INSTRUC, BOOK (SR615HEJ) <HE, LH>
3	SR-CSR-615-EX0		RC, RC-SR615EX<HE, EEZ, EZ>
4	S0-117-220-000		CONVERTOR 117V-220V<LH>
4	S0-220-117-000		CONVERTOR 220V-117V<HE>

SPECIFICATIONS

EEZ, EZ MODELS

Tuner section

Frequency range
FM: 87.5–108.0 MHz
Antenna: FM antenna
MW: 522/530–1,611/1,600 kHz (9/10 kHz step)
Antenna: Ferrite bar antenna
LW: 153–288 kHz
Antenna: Ferrite bar antenna

Deck section

Track format 4 tracks, 2 channels
Frequency range Normal tape: 50–12,500 Hz (EIAJ)
Recording system AC bias
Erasing system Magnet erase
Heads Deck 1:
Recording/playback head (1)
Erasure head (1)
Deck 2:
Playback head (1)

CD player section

Disc Compact disc
Scanning method Non-contact optical scanner (semiconductor laser)
Laser Semiconductor laser λ=780 nm
Rotation speed Approx. 500–200 rpm/CLV
Error correction Cross interleave, Reed Solomon code
No. of channels 2 channels
D/A conversion 16-bit linear

Common section

Speaker 100 mm cone type (2)
Output Headphones jack (stereo mini-jack)
Power output 4.8 W + 4.8 W (DIN MUSIC POWER)
4 W + 4 W (10% T.H.D./4Ω DC)
2.8 W + 2.8 W (DIN 1% Rated power)
Power requirements DC 12 V using eight R14 (size C) batteries
AC 230 V
Power consumption 25 W
Dimensions 406 (W) × 169 (H) × 218.5 (D) mm
(16 × 6 3/4 × 8 5/8 in.)
Weight Approx. 3.7 kg (8.1 lb) (excluding batteries)

- Design and specifications are subject to change without notice.

HE, LH MODELS

Tuner section

Frequency range
<CSD-SR615HE> FM: 87.5–108.0 MHz
Antenna: FM antenna
SW: 3.800–12.500 MHz
Antenna: Ferrite bar antenna
MW: 531/530–1,602/1,600 kHz (9/10 kHz step)
Antenna: Ferrite bar antenna
<CSD-SR615LH> FM: 87.5–108.0 MHz
Antenna: FM antenna
SW: 3.800–12.500 MHz
Antenna: Ferrite bar antenna
MW: 530/531–1,710/1,602 kHz (10/9 kHz step)
Antenna: Ferrite bar antenna

Deck section

Track format 4 tracks, 2 channels
Frequency range Normal tape: 50–12,500 Hz (EIAJ)
Recording system AC bias
Erasing system Magnet erase
Heads Deck 1:
Recording/playback head (1)
Erasure head (1)
Deck 2:
Playback head (1)

CD player section

Disc Compact disc
Scanning method Non-contact optical scanner (semiconductor laser)
Laser Semiconductor laser λ=780 nm
Rotation speed Approx. 500–200 rpm/CLV
Error correction Cross interleave, Reed Solomon code
No. of channels 2 channels
D/A conversion 16-bit linear

Common section

Speaker 100 mm cone type (2)
Output Headphones jack (stereo mini-jack)
Power output 4 W + 4 W (4 Ω, EIAJ DC)
Power requirements DC 12 V using eight R14 (size C) batteries
AC 110–120V/220–240V selectable, 50/60 Hz
Power consumption 20 W
Dimensions 406 (W) × 169 (H) × 218.5 (D) mm
(16 × 6 3/4 × 8 5/8 in.)
Weight Approx. 3.7 kg (8.1 lb) (excluding batteries)

- Design and specifications are subject to change without notice.

ELECTRICAL MAIN PARTS LIST

DESCRIPTION で判断できない物は “REFERENCE NAME LIST” を参照してください。
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO.	PART NO.	カンリ NO.	DESCRIPTION
IC			
	87-017-982-010		IC,BA5412
	87-017-486-080		IC,BA6397FP
	87-001-854-010		IC,BA7755A
	87-070-083-010		IC,GP1U281X
⚠	87-001-196-010		IC,ICPN10
	87-017-296-080		IC,LA1831N
	87-001-376-010		IC,LC7218
	87-001-982-010		IC,TA7291S
	87-017-681-010		IC,TA8126SN/TA8126S
	87-017-680-010		IC,TA8176SN
	S8-381-890-000		IC,TA8189N
	87-002-407-010		IC,TA8191F
	87-002-408-010		IC,TC9236AF
	87-002-644-010		IC,TDA1311AT
	87-070-324-010		IC,TMP47C820DF-NA41
TRANSISTOR			
	89-112-965-010		TR,2SA1296GR
	87-026-463-010		TR,2SA933S
	89-109-521-210		TR,2SA952/K/L
	89-210-154-010		TR,2SB1185E/F
	89-318-154-010		TR,2SC1815-Y
	89-319-234-010		TR,2SC1923
	S3-287-800-020		TR,2SC2878B
	S2-010-300-000		TR,2SJ103GR
	89-501-615-080		TR,2SK161
	89-502-465-080		TR,2SK246Y
	87-026-224-080		TR,DTA143XS
	87-026-486-010		TR,DTA144TS
	87-026-291-010		TR,DTC124XS
	87-026-218-080		TR,DTC144ES
DIODE			
	S0-254-010-000		DIODE,1N5401BL
	87-020-465-010		DIODE,1SS133
	87-020-605-010		DIODE,1SS135
	82-135-799-010		DIODE,IN4148
	S3-KV1-260-400		DIODE,KV1260TS2
	87-002-730-010		DIODE,SVC203SPA
	S0-100-221-200		ZENER,2.2V
	S0-100-521-200		ZENER,5.2V,1/2W
	S0-100-681-200		ZENER,6.8V,1/2W
	S0-100-821-200		ZENER,8.2V,1/2W
	83-NEG-678-080		ZENER,MTZJ6.2VA1/2W
MAIN C.B			
BPF1	S1-000-060-000		BANDPASS FILTER
C21	87-010-544-010		CAP,E 0.1-50V
C43	87-010-403-010		CAP,E 3.3-50V
C45	87-010-405-010		CAP,E 10-50V
C48	87-010-908-010		CAP,E 220-10V
C51	87-010-035-010		CAP,E 2.2-50V
C52	87-010-053-810		CAP,E 1-50V
C53	87-015-698-040		CAP,E 4.7-50V
C57	87-010-053-810		CAP,E 1-50V
C58	87-010-053-810		CAP,E 1-50V
C62	87-010-035-010		CAP,E 2.2-50V
C64	87-010-045-010		CAP,E 100-25V
C74	87-010-045-010		CAP,E 100-25V
C79	87-010-249-010		CAP,E 470-16V
C82	87-010-545-010		CAP,E 0.22-50V
C83	87-010-545-010		CAP,E 0.22-50V
C91	87-010-380-010		CAP,E 47-16V
C302	87-010-908-010		CAP,E 220-10V
C307	87-010-038-010		CAP,E 22-25V
C314	87-010-403-010		CAP,E 3.3-50V
C315	87-010-380-010		CAP,E 47-16V
C318	87-010-908-010		CAP,E 220-10V
C319	87-010-265-010		CAP,E 33-16V
C321	87-010-545-010		CAP,E 0.22-50V
C322	87-010-555-010		CAP,E 100-10V
C323	87-010-053-810		CAP,E 1-50V
C334	87-010-053-810		CAP,E 1-50V
C339	87-010-908-010		CAP,E 220-10V
C345	87-010-555-010		CAP,E 100-10V
C348	87-010-555-010		CAP,E 100-10V
C351	87-010-236-010		CAP,E 1000-10V
C353	87-010-405-010		CAP,E 10-50V
C354	87-010-405-010		CAP,E 10-50V
C476	87-010-221-010		CAP,E 470-10V
C481	87-010-221-010		CAP,E 470-10V
C483	87-010-555-010		CAP,E 100-10V
C486	87-015-698-040		CAP,E 4.7-50V
C505	87-010-265-010		CAP,E 33-16V
C506	87-010-265-010		CAP,E 33-16V
C509	87-010-400-010		CAP,E 0.47-50V
C510	87-010-400-010		CAP,E 0.47-50V
C513	87-010-380-010		CAP,E 47-16V
C514	87-010-380-010		CAP,E 47-16V
C517	87-010-053-810		CAP,E 1-50V
C518	87-010-053-810		CAP,E 1-50V
C523	87-010-053-810		CAP,E 1-50V
C524	87-010-053-810		CAP,E 1-50V
C531	87-010-375-010		CAP,E 330-10V
C532	87-010-035-010		CAP,E 2.2-50V
C533	87-010-444-080		CAP,E 22-50V
C534	87-015-698-040		CAP,E 4.7-50V
C538	87-010-555-010		CAP,E 100-10V
C539	87-010-053-810		CAP,E 1-50V
C542	87-010-405-010		CAP,E 10-50V
C543	87-010-053-810		CAP,E 1-50V
C544	87-010-405-010		CAP,E 10-50V
C545	87-010-480-080		CAP,E 220-16V
C601	87-010-053-810		CAP,E 1-50V
C602	87-010-053-810		CAP,E 1-50V
C603	87-010-053-810		CAP,E 1-50V
C604	87-010-053-810		CAP,E 1-50V
C605	87-010-908-010		CAP,E 220-10V
C615	87-010-053-810		CAP,E 1-50V
C616	87-010-053-810		CAP,E 1-50V
C617	87-010-405-010		CAP,E 10-50V
C618	87-010-405-010		CAP,E 10-50V
C619	87-010-045-010		CAP,E 100-25V
C621	87-010-249-010		CAP,E 470-16V
C622	87-010-249-010		CAP,E 470-16V
C623	87-010-380-010		CAP,E 47-16V
C624	87-010-380-010		CAP,E 47-16V
C630	87-010-053-810		CAP,E 1-50V
C631	87-010-038-010		CAP,E 22-25V
C671	87-010-405-010		CAP,E 10-50V
C673	87-010-908-010		CAP,E 220-10V
C674	87-010-678-010		CAP,E 3300-25V
C675	87-010-038-010		CAP,E 22-25V
CF1	S0-001-070-010		CER,FILTER
CF2	S0-001-070-010		CER,FILTER
CT1	S2-001-690-000		TRIMMER TZ03R300FR169<EEZ,EZ>
CT1	S2-101-690-000		TRIMMER TZ03T110FR169<HE,LH>
CT2	S2-101-690-000		TRIMMER TZ03T110FR169<EEZ,EZ>
CT2	S2-001-690-000		TRIMMER TZ03R300FR169<HE,LH>
F301	S1-011-620-000		FERRITE BEAD INDUCTOR
F302	S1-011-620-000		FERRITE BEAD INDUCTOR
L2	S0-550-550-070		COIL,FM 5.5T
L3	S0-102-270-000		INDUCTOR 2.2UH
L4	S0-450-550-070		COIL,FM 4.5T
L5	S0-091-320-070		IFT,PA7BRS-A9132CCG<EEZ,EZ>
L5	S0-091-310-070		IFT,PA7BRS-A9131CCG<HE,LH>

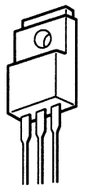
REF. NO.	PART NO.	カンリ NO.	DESCRIPTION
L6	S0-091-310-070		IFT,PA7BRS-A9131CCG<EEZ,EZ>
L6	S0-091-330-070		IFT,PA119ANS-A9133G0<HE,LH>
L7	S0-100-140-000		INDUCTOR,100UH
L8	S0-100-140-000		INDUCTOR,100UH
L9	S0-091-340-070		IFT,A7BRCS-A9134
L10	S0-100-140-000		INDUCTOR,100UH
L11	S0-104-770-000		INDUCTOR 4.7UH
L70	S0-611-441-200		COIL,ANT MW
L71	S2-500-041-200		COIL,ANT LW<EEZ,EZ>
L71	S0-090-311-200		COIL,ANT SW<HE,LH>
L301	S0-100-140-000		INDUCTOR,100UH
L302	S0-100-140-000		INDUCTOR,100UH
L304	S0-102-270-000		INDUCTOR 2.2UH
LS3	S1-450-240-040		COIL,FM 14.5T
MFT1	S0-006-600-070		IFT,AND CER FIL PCFMT-066
SFR1	S5-030-650-000		SFR,50K
SFR301	S4-720-851-010		SFR,4.7K
SFR302	87-024-176-080		SFR,100K
SFR501	S2-220-850-000		SFR,2.2K
SFR502	S1-030-851-000		SFR,10K
SW601	S4-300-710-030		SW,SLIDE SS43D606G7AA
T501	S0-036-300-100		IFT,4A363R(B)
X1	S6-072-000-020		X'TAL,7.2MHZ
X2	S6-010-700-010		CER,RESO 10.7MHz
X3	S0-004-570-000		CER,RESO KBR-457HS15
X301	S0-016-930-000		CER,RESO 16.93MHz
VOL C.B			
J601	S0-020-003-500		JACK,HP 3.5MM
VR601	S5-030-020-030		VR,50K
FRONT C.B			
C702	87-010-405-010		CAP,E 10-50V
C710	87-016-040-080		CAP,E 47000-5.5V
C716	87-010-053-810		CAP,E 1-50V
C717	87-010-544-010		CAP,E 0.1-50V
C742	87-010-045-010		CAP,E 100-25V

REF. NO.	PART NO.	カンリ NO.	DESCRIPTION
D730	87-017-663-080		LED,5-5(RED)
L701	S0-104-760-000		INDUCTOR,47UH
L702	S0-102-270-000		INDUCTOR 2.2UH
LCD701	S0-043-610-000		DISPLAY LCD BU4430AZ
SW705	SK-HH9-010-000		SW,TACT SKHHAK
SW706	SK-HH9-010-000		SW,TACT SKHHAK
SW707	SK-HH9-010-000		SW,TACT SKHHAK
SW709	SK-HH9-010-000		SW,TACT SKHHAK
SW710	SK-HH9-010-000		SW,TACT SKHHAK
SW711	SK-HH9-010-000		SW,TACT SKHHAK
SW712	SK-HH9-010-000		SW,TACT SKHHAK
SW713	SK-HH9-010-000		SW,TACT SKHHAK
SW714	SK-HH9-010-000		SW,TACT SKHHAK
SW715	SK-HH9-010-000		SW,TACT SKHHAK
SW716	SK-HH9-010-000		SW,TACT SKHHAK
X701	S6-004-000-000		CER,RESO 4MHz
X702	S3-327-680-000		X,TAL 32.768KHZ
DRIVE C.B			
M1	87-045-356-019		MOT,RF-310TA 30
M2	87-045-358-019		MOT,RF-310TA 43
SW1	87-036-340-019		SW,LEAF LSA-1121
MOTOR CD C.B			
M1	87-045-305-019		MOTOR, RF-500TB
SW1	87-036-110-019		SW,PUSH SPPB 62
SW2	87-036-110-019		SW,PUSH SPPB 62

TRANSISTOR ILLUSTRATION

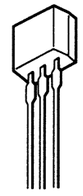
ECB

2SA1296GR
2SA933S
2SA952/K/L
2SC1815-Y
2SC1923
2SC2878B



BCE

2SB1185E/F

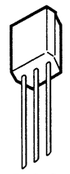


ECB

DTA143XS
DTA144TS
DTC124XS
DTC144ES

DGS

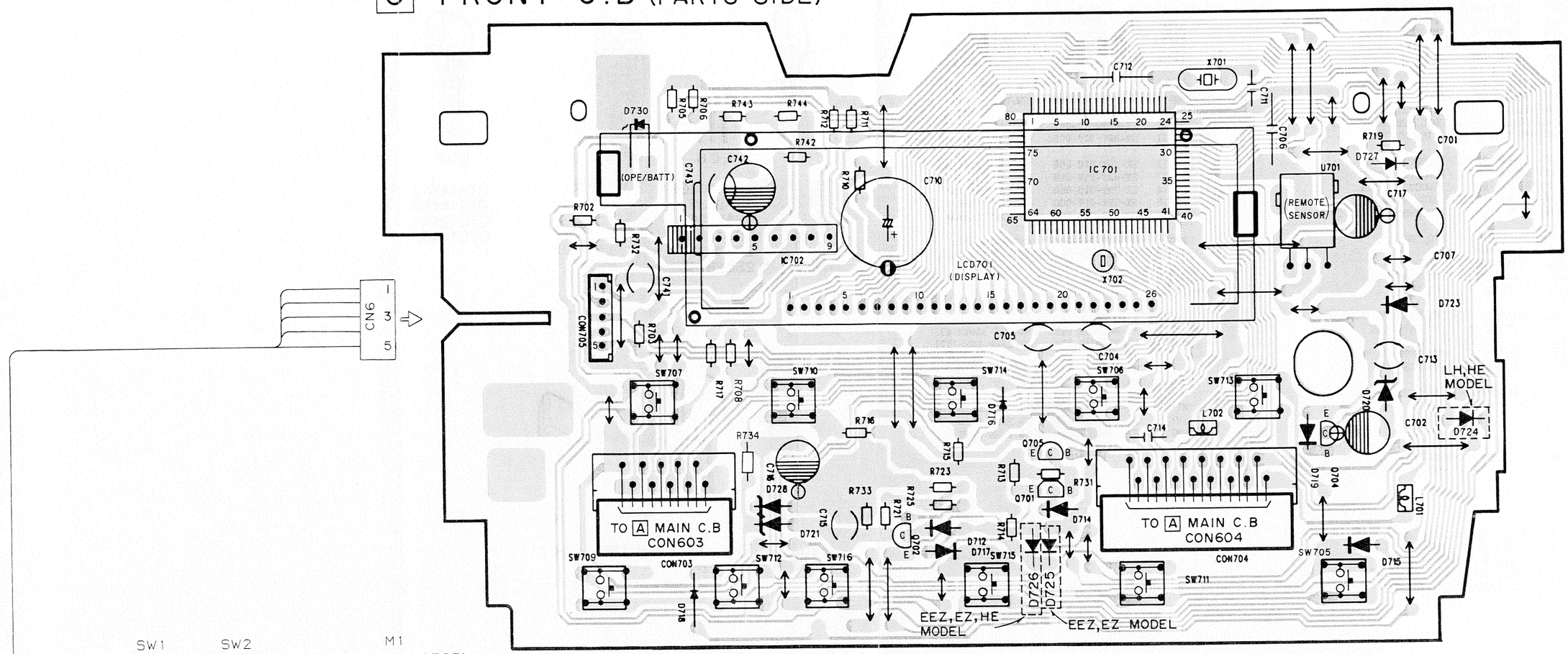
2SJ103GR
2SK246Y

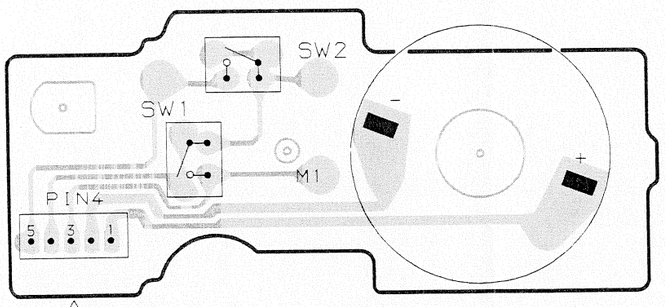


DSG

2SK161

C FRONT C.B (PARTS SIDE)





F MOTOR CB C.B
(PATTERN SIDE)

SW707 3-MODE EQUALIZER
ROCK/POP/CLASSIC

SW710 DUBBING

SW714 SET

SW706 FM MODE/OSC

SW713 BAND

SW709 REPEAT

SW712 SW716 TUNING
SKIP/SEARCH

SW715 STOP

SW711 PLAY/PAUSE

SW705 OPEN/CLOSE

NOTE
: LED
: RESISTOR
: CAPACITOR

C FRONT C.B

LCD701 BU4430AZ
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

IC701
TMP47C8200F-NA41
SYSTEM CONTROL

IC702 TA7291S
MOTOR DRIVER
CLOSE VCC OUT(-) NC GND VS OUT(+) VREF OPEN

CON704 (1/2)
G
CL
DI
DO
TUNER MUTE
MUTE
+5.5V
TO A MAIN C.B (1/2) CON604

CD MECHANISM 3ZG-3A6N (2/2)
F MOTOR CD C.B
CON705
PIN4
M1 (LOADING MOTOR)
(OPEN) SW1
(CLOSE) SW2

CON703
GND
P-ON 12V
TU+
CD+
+5V
OP/BAT
HSD
MUTE
PU IN
M/ST
TO A MAIN C.B (1/2) CON603

CON704 (2/2)
MONO/ST
CE
CD RST
BUCK
CCE
BUS3
BUS2
BUS1
TO A MAIN C.B (1/2) CON604

U701
(REMOTE SENS.)

Q704
DTC124XS
RESET

Q705
DTC144ES
SWITCH

Q701
2SC1815-Y

Q702
2SC1815-Y
POWER ON

D730
L-153SIDT
OPERBATT

D721
MTZJ6.2VA

D720
2.2V

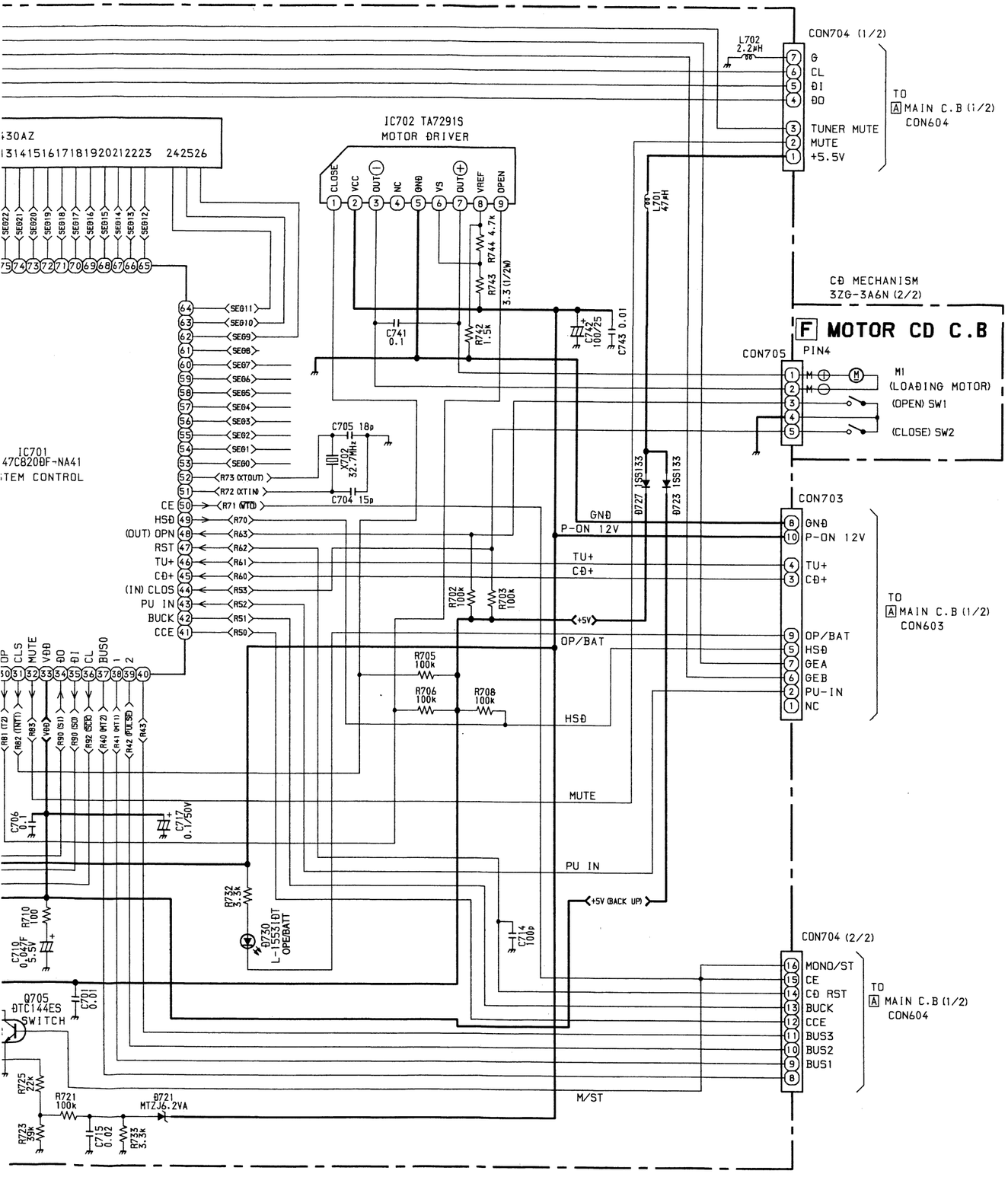
D728
5.2V

1SS133 x3

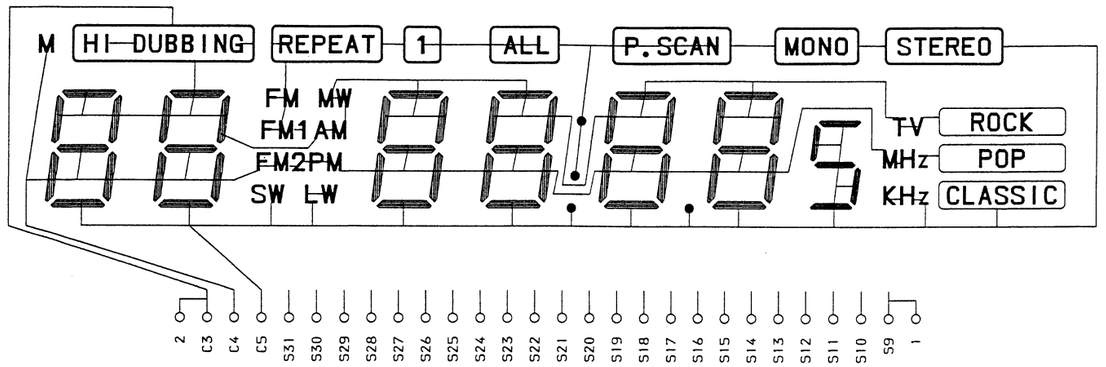
BAND SW713
REPEAT SW709
OPEN/CLOSE SW705
SET SW714
DUBBING SW710
FM MODE/OSC SW706
3-MODE EQUALIZER SW707
SW715
SW711
SW716
SW712

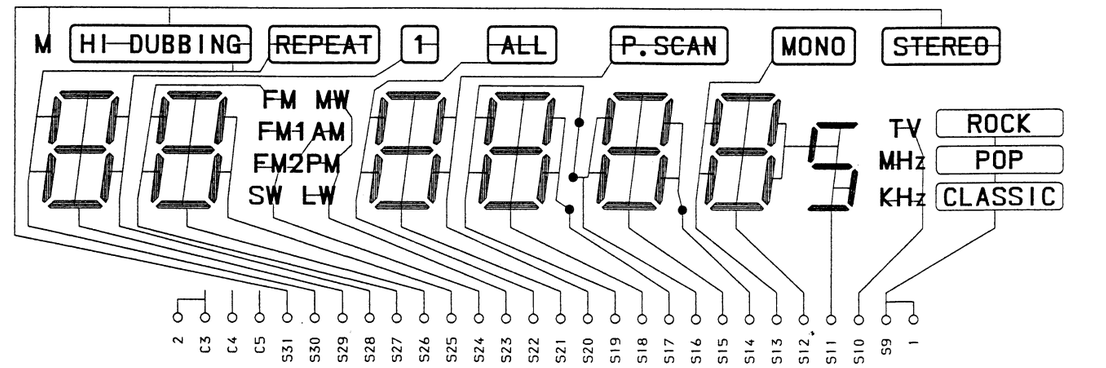
LH, HE MODEL
EEZ, EZ, HE MODEL

K00
K01
K02
K03



LCD701 (DISPLAY)





		4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		S31	S30	S29	S28	S27	S26	S25	S24	S23	S22	S21	S20	S19	S18	S17	S16	S15	S14	S13	S12	S11	S10	S9
1	(C3)	HI DUBBING	1f	1a	1b	2f	2a	2b	AM	MW	3f	3a	3b	4f	4a	4b	5f	5a	5b	6f	6a	6b	TV	ROCK
2	(C2)	M	1e	1g	1c	2e	2g	2c	FM2	PM	3e	3g	3c	4e	4g	4c	5e	5g	5c	6e	6g	6c	MHz	POP
3	(C1)	STEREO	REPEAT	1d	1	FM	2d	FM1	SW	LW	ALL	3d	P.SCAN	:	4d	1		5d	2	MONO	6d	5	KHz	CLASSIC

FROM D POWER C.B

CN601 (1 2)

A MAIN C.B
(PARTS SIDE)

NOTE
: ⏚
: ⏚
( ) : ⊣⊢
□ : ⊣⊢

033-005439-400
5439-01-01

PICK UP ASSY
PIN2
PIN1

E DRIVE C.B
(PATTERN SIDE)

SW1
(INSIDE LIMIT SWITCH)

BLK
CN3
(BLK)
(ORG)
PIN2
M2
M1
(SPINDLE MOTOR)
M2
(SLED MOTOR)
SW1
CN2
(RED)
(BLK)
BLK
CN1
(RED)
(BLK)
ORG

SW601
FUNCTION
TAPE
POWER
RADIO
CD

J601
VR601
VOLUME

B VOL C.B
(PARTS SIDE)

CN602 (1 4)
SP1 (LCH) (WHT) (RED)
SP2 (RCH) (WHT) (RED)

TO C FRONT C.B CON703

TO C FRONT C.B CON704

TO CON503

CN503 (10 9 7 5 3 1)
GRY BRN RED ORG YEL GRN BLU VIO BLK WHT

DECK1 SW1 (MOTOR SW)
DECK2 SW2 (MOTOR SW)
DECK1 SW3 (PLAY SW)
DECK2 SW4 (REC SW)
(RED) (BRN)
M1 (MOTOR)

7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22

FROM D POWER C.B

I 2
CN601

N C.B

S SIDE)

033-005439-400

5439-01-01

HE,LH MODEL

EEZ,EZ MODEL

ANT I
(FM ANTENNA)

SW601

FUNCTION

APE
OWER ◄►RADIO◄► CD

B VOL C.B
(PARTS SIDE)

SP2
(RCH)

TO C FRONT C.B
CON703

TO C FRONT C.B
CON704

TO CON503

CN503
10 9 7 5 3 1

DECK1 SW1 (MOTOR SW)

DECK2 SW2 (MOTOR SW)

DECK1 SW3 (PLAY SW)

DECK2 SW4 (REC SW)

M1 (MOTOR)

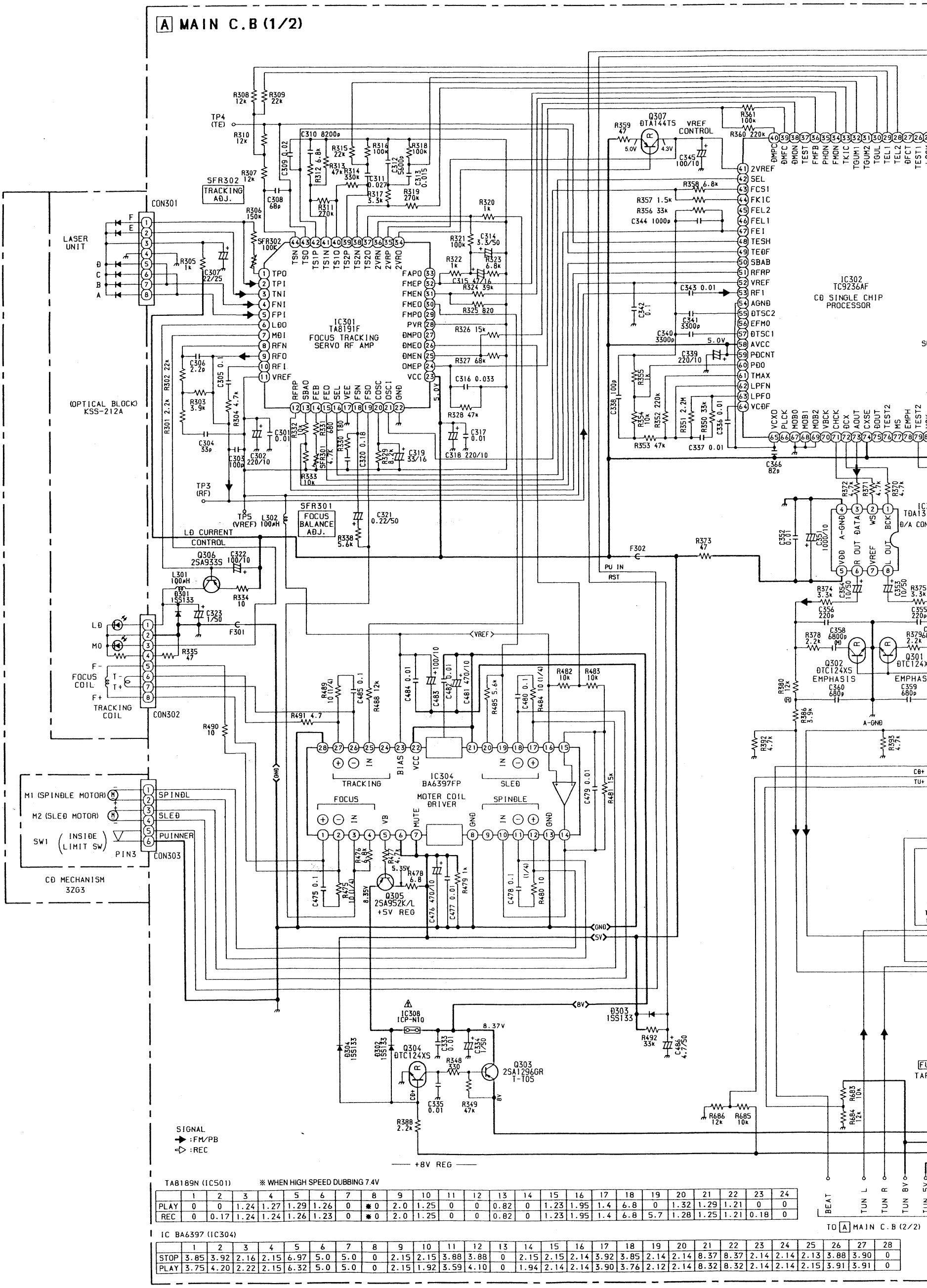
DECK1
EH RPH

DECK2
PH

CN302

CN301

SCHEMATIC DIAGRAM-2 (MAIN 1 / 2)

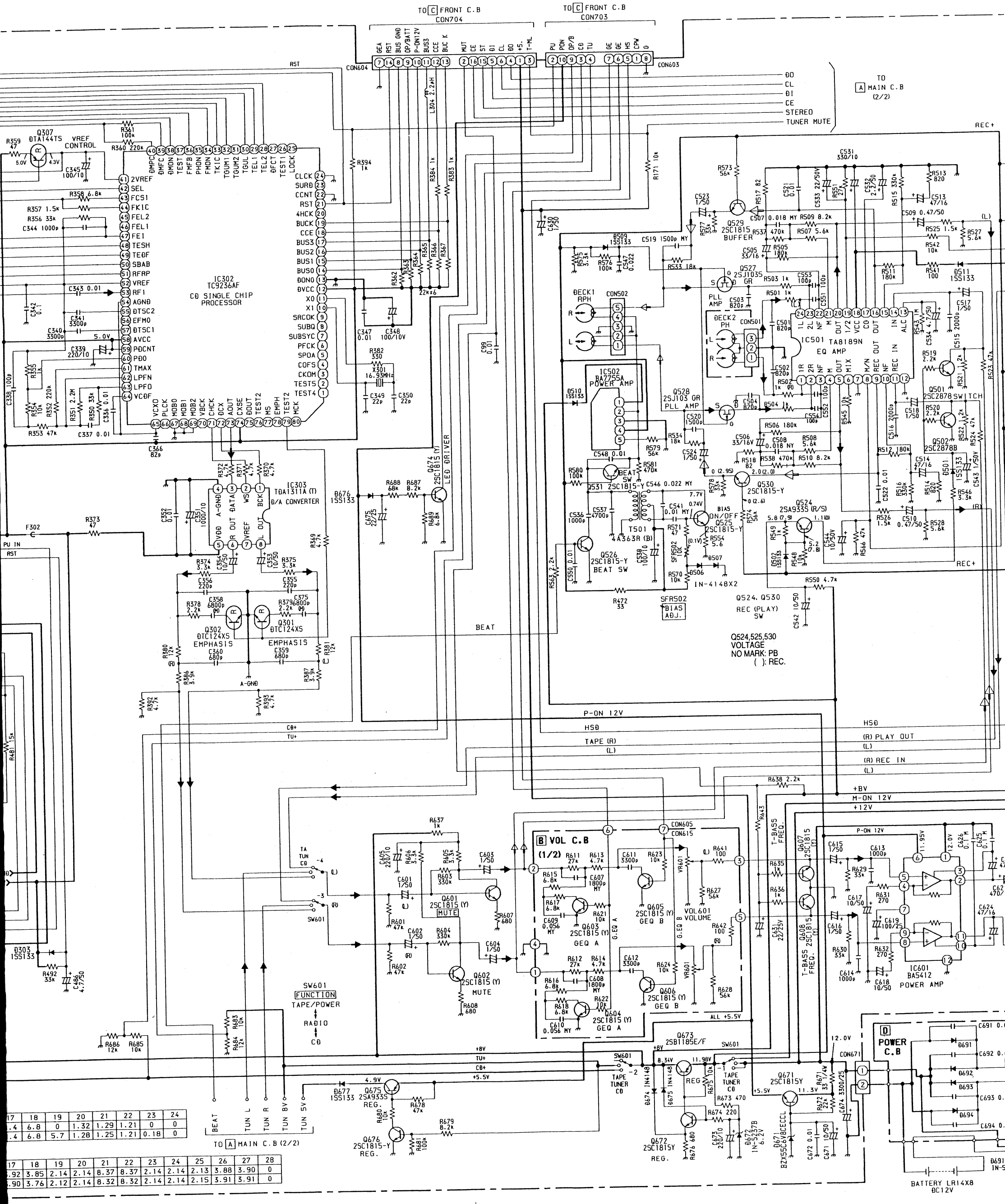


TA8189N (IC501) ※ WHEN HIGH SPEED DUBBING 7.4V

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
PLAY	0	0	1.24	1.27	1.29	1.26	0	※0	2.0	1.25	0	0	0.82	0	1.23	1.95	1.4	6.8	0	1.32	1.29	1.21	0	0
REC	0	0.17	1.24	1.24	1.26	1.23	0	※0	2.0	1.25	0	0	0.82	0	1.23	1.95	1.4	6.8	5.7	1.28	1.25	1.21	0.18	0

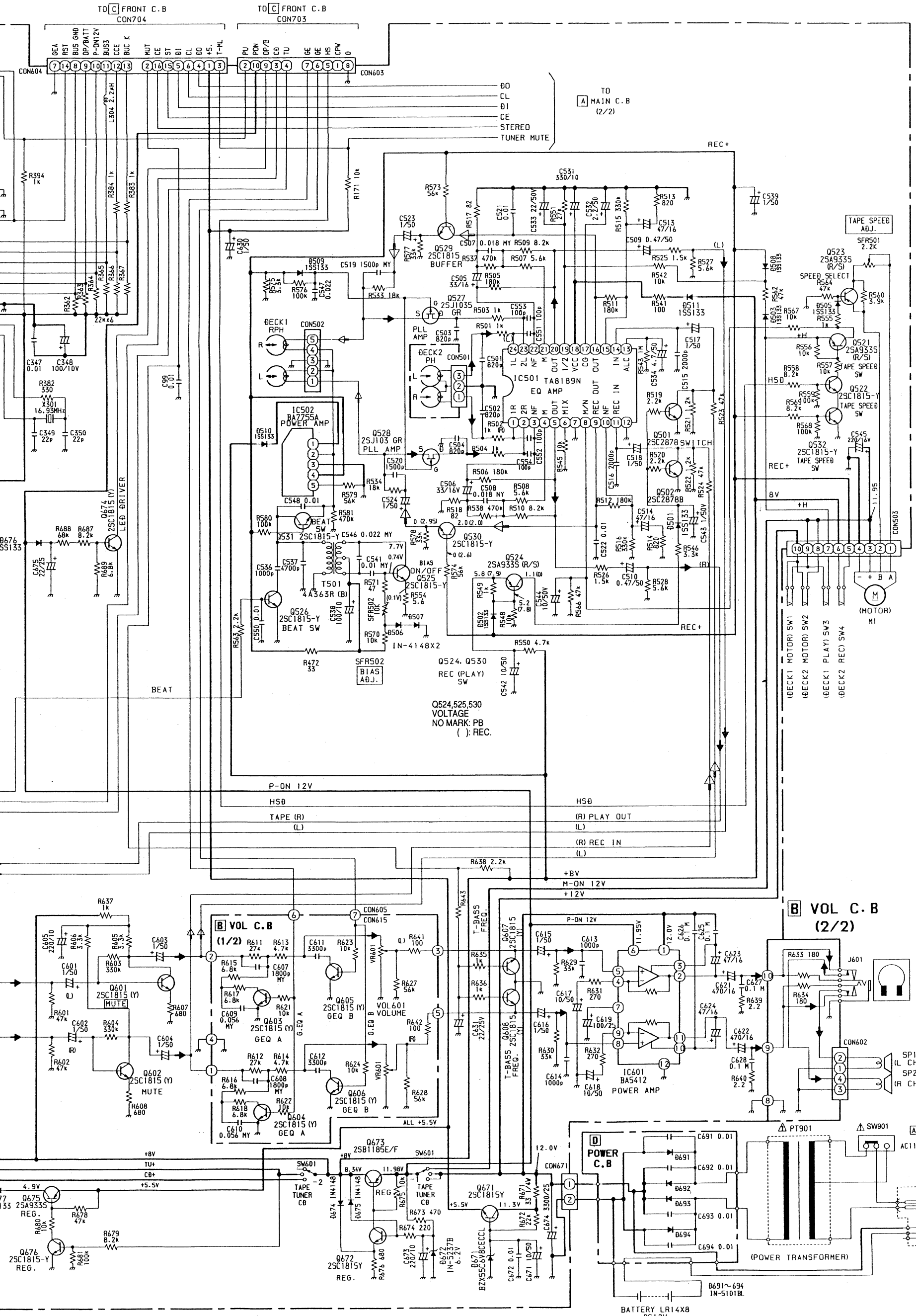
IC BA6397 (IC304)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
STOP	3.85	3.92	2.16	2.15	6.97	5.0	5.0	0	2.15	2.15	3.88	3.88	0	2.15	2.15	2.14	3.92	3.85	2.14	2.14	8.37	8.37	2.14	2.14	2.13	3.88	3.90	0
PLAY	3.75	4.20	2.22	2.15	6.32	5.0	5.0	0	2.15	1.92	3.59	4.10	0	1.94	2.14	2.14	3.90	3.76	2.12	2.14	8.32	8.32	2.14	2.14	2.15	3.91	3.91	0

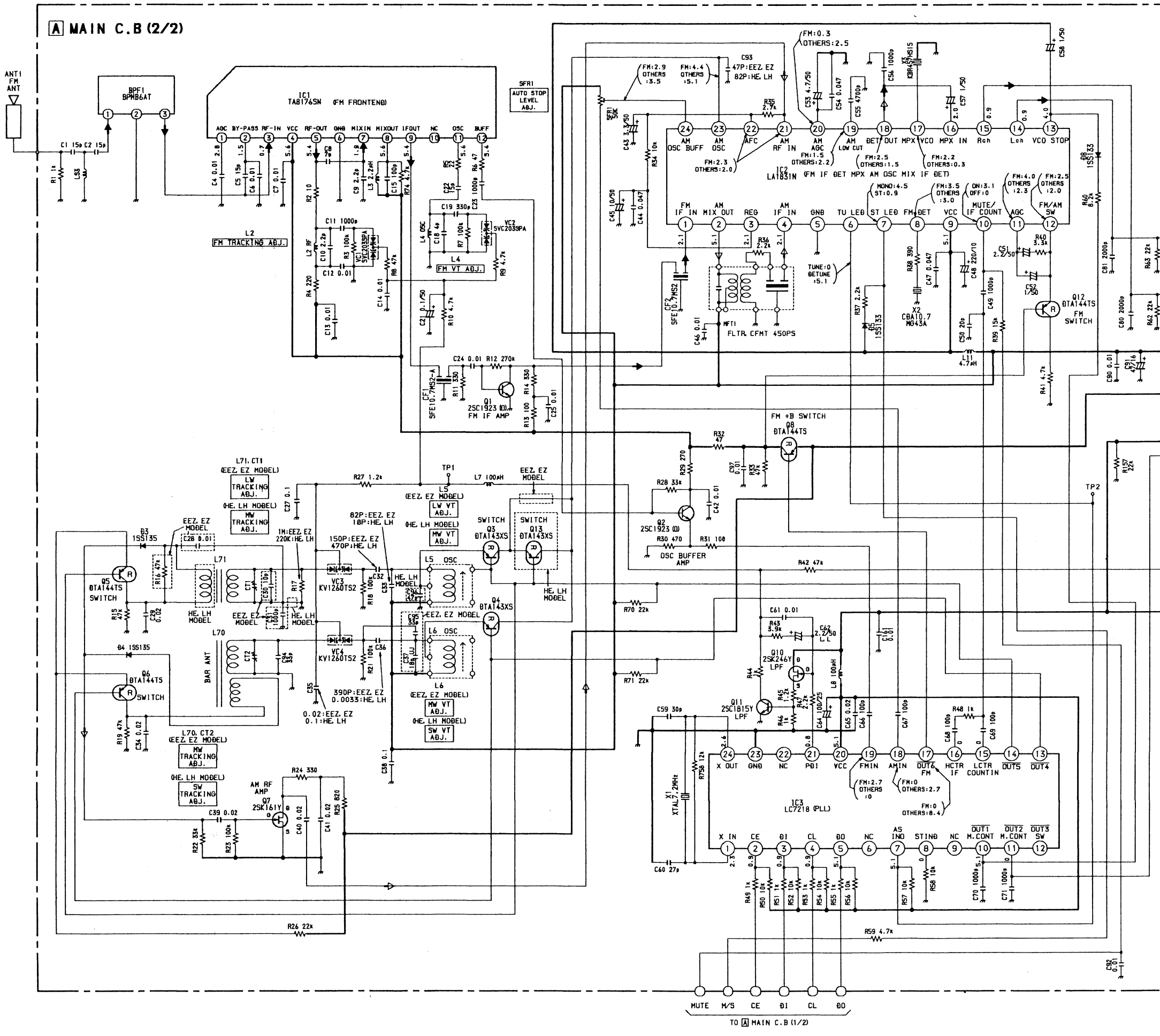


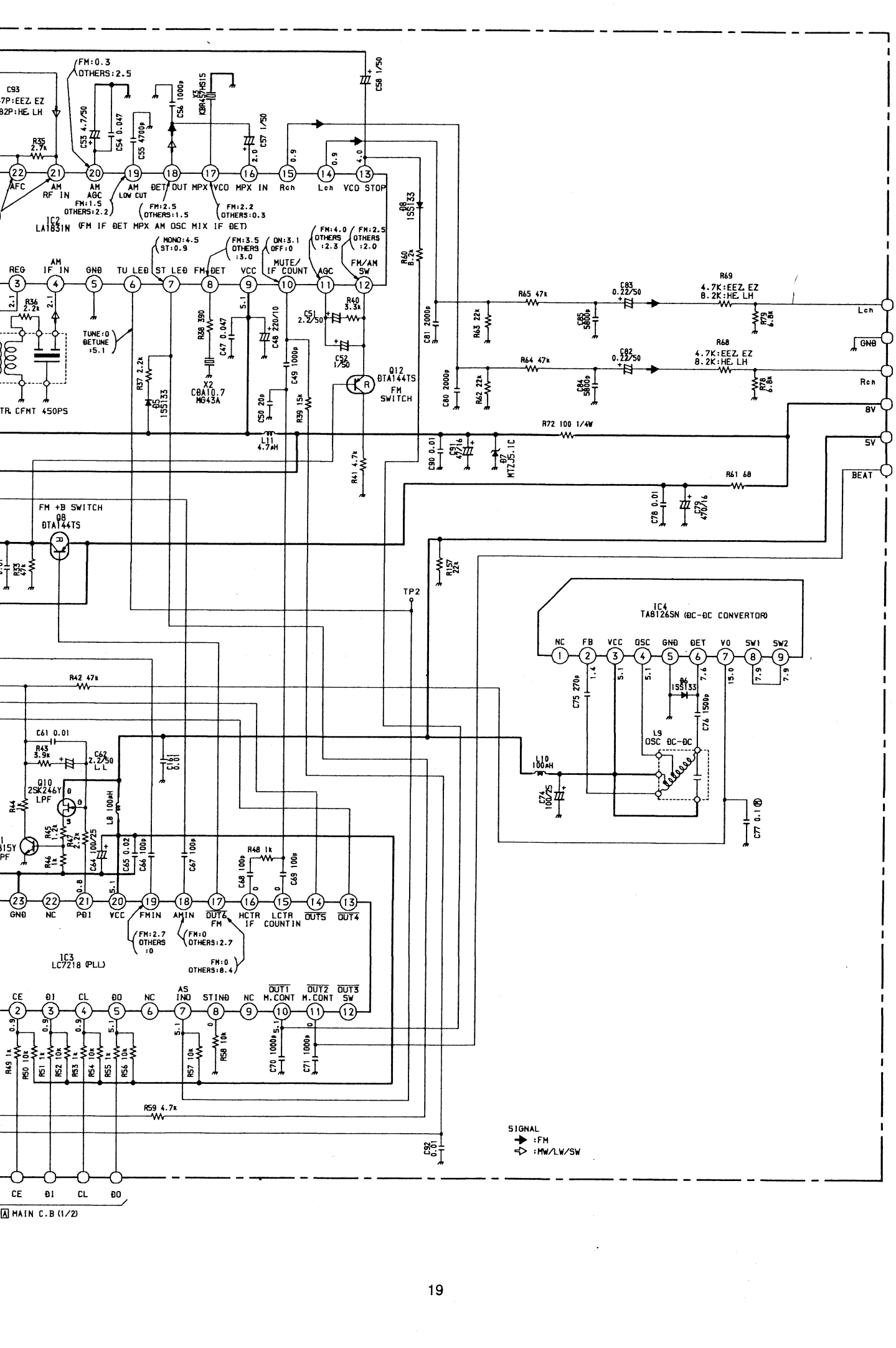
17	18	19	20	21	22	23	24
.4	6.8	0	1.32	1.29	1.21	0	0
.4	6.8	5.7	1.28	1.25	1.21	0.18	0

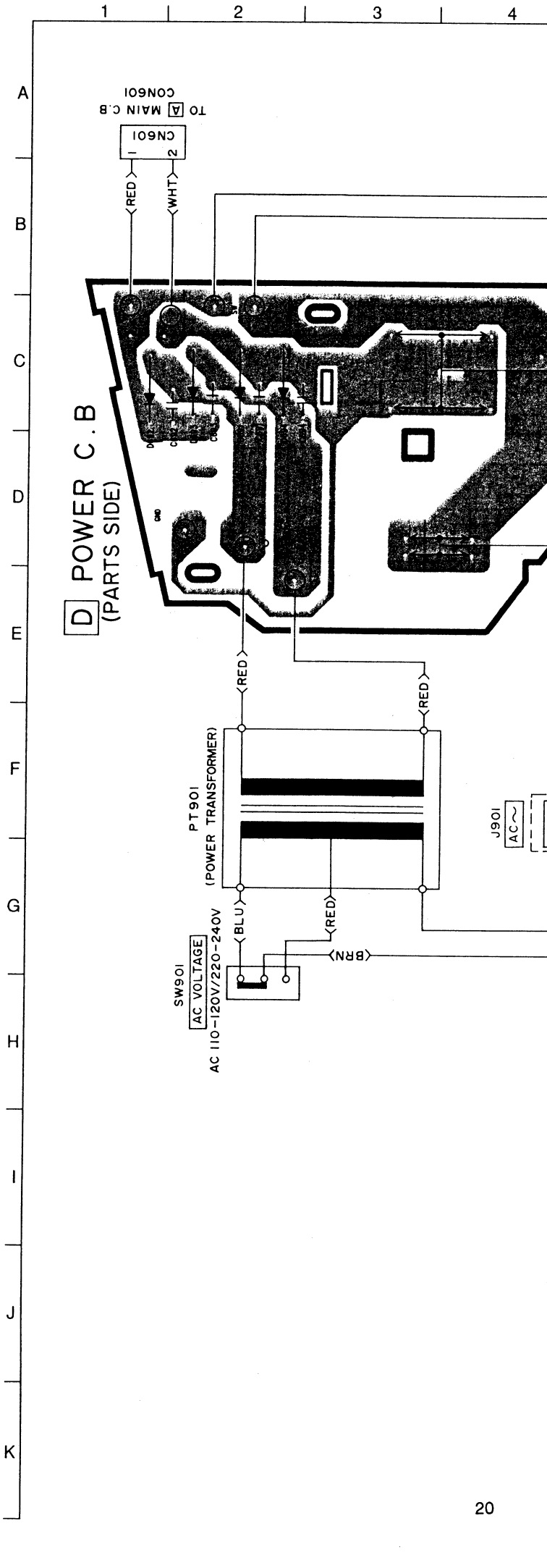
17	18	19	20	21	22	23	24	25	26	27	28
.92	3.85	2.14	2.14	8.37	8.37	2.14	2.14	2.13	3.88	3.90	0
.90	3.76	2.12	2.14	8.32	8.32	2.14	2.14	2.15	3.91	3.91	0


TO C FRONT C.B CON704
TO C FRONT C.B CON703
CON604
CON603
GEA RST BUS GND OP/BATT P-ON12V BUS3 CCE BUC K MUT CE ST DI CL DO +5. T-ML
PU PON OP/B CO TU GE GE HS CPW G
DO
CL
DI
CE
STEREO
TUNER MUTE
TO A MAIN C.B (2/2)
REC+
TAPE SPEED ADJ.
SFR501 2.2K
Q529 2SC1815 BUFFER
Q527 2SJ103S GR
PLL AMP
Q528 2SJ103 GR PLL AMP
IC501 TA8189N EQ AMP
IC502 BA7755A POWER AMP
Q501 2SC2878 SWITCH
Q502 2SC2878B
Q530 2SC1815-Y
Q531 2SC1815-Y
Q524 2SA933S (R/S)
Q525 2SC1815-Y
Q526 2SC1815-Y BEAT SW
Q523 2SA933S (R/S)
Q521 2SA933S (R/S)
Q522 2SC1815-Y TAPE SPEED SW
Q532 2SC1815-Y TAPE SPEED SW
Q674 2SC1815 (Y) LED DRIVER
T501 4A363R (B)
SPEED SELECT
TAPE SPEED SW
BIAS ON/OFF
BEAT SW
REC (PLAY) SW
BIAS ADJ.
SFR502 10K
SFR502
IN-4148X2
(DECK1 MOTOR) SW1
(DECK2 MOTOR) SW2
(DECK1 PLAY) SW3
(DECK2 REC) SW4
(MOTOR) M1
Q524,525,530 VOLTAGE NO MARK: PB ( ): REC.
BEAT
P-ON 12V
HSØ
TAPE (R) (L)
(R) PLAY OUT (L)
(R) REC IN (L)
+BV
M-ON 12V
+12V
T-BASS FREQ.
B VOL C.B (1/2)
B VOL C.B (2/2)
MUTE
VOL601 VOLUME
G.EQ A
G.EQ B
ALL +5.5V
IC601 BA5412 POWER AMP
CON605
CON615
CON602
SP1 (L CH)
SP2 (R CH)
J601
D POWER C.B
PT901
SW901
AC VOLTAGE
AC110~120V/220~240V
J901
AC~
50Hz/60Hz
AC110~120V/220~240V
(POWER TRANSFORMER)
BATTERY LR14X8 ØC12V
Ø691~694 IN-5101BL
Q671 2SC1815Y
Q672 2SC1815Y REG.
Q673 2SB1185E/F
Q675 2SA933S REG.
Q676 2SC1815-Y REG.
REG
TAPE TUNER CØ
SW601
CON671
CON503
CON502
CON501
+8V
TU+
CØ+
+5.5V
8V
+H
HSØ
(L)
(R)
11.95
12.0V
11.98V
8.34V
4.9V
11.3V
0 (2.95)
2.0 (2.0)
0 (2.6)
5.8 (7.9)
1.1 (0)
5.2 (0.8)
7.7V
0.74V
(0.1V)
(R)

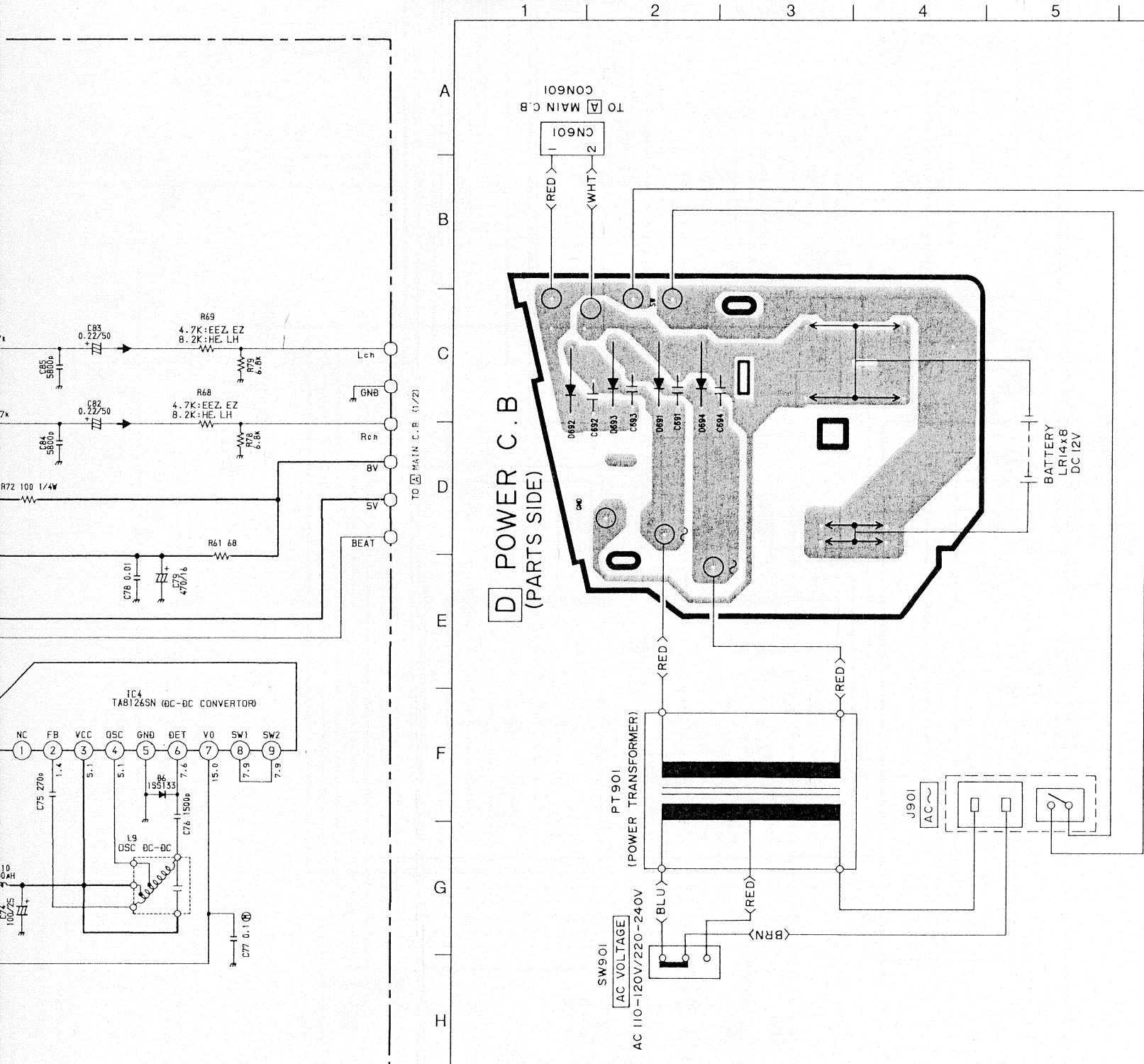
SCHEMATIC DIAGRAM-3 (MAIN 2 / 2)


A MAIN C.B (2/2)
ANT1 FM ANT
BPF1 BPMB6AT
IC1 TA8176SN (FM FRONTEND)
AGC BY-PASS RF-IN VCC RF-OUT GNB MIXIN MIXOUT IFOUT NC OSC BUFF
SFR1 AUTO STOP LEVEL ADJ.
L2 FM TRACKING ADJ.
L4 FM VT ADJ.
VC2 SVC203SPA
CF1 SFE10.7MS2-A
Q1 2SC1923 (D) FM IF AMP
IC2 LA1831N (FM IF DET MPX AM OSC MIX IF DET)
FM IF IN MIX OUT REG AM IF IN GNB TU LED ST LED FM DET VCC MUTE/IF COUNT AGC FM/AM SW
AM OSC BUFF AM OSC AFC AM RF IN AM AGC AM LOW CUT DET OUT MPX VCO MPX IN Rch Lch VCO STOP
CF2 SFE10.7MS2
MFT1 FLTR CFMT 450PS
X2 CBA10.7 MG43A
Q12 DTA144TS FM SWITCH
FM +B SWITCH Q8 DTA144TS
Q2 2SC1923 (D) OSC BUFFER AMP
L71, CT1 (EEZ, EZ MODEL)
LW TRACKING ADJ.
(HE, LH MODEL) MW TRACKING ADJ.
L5 (EEZ, EZ MODEL)
LW VT ADJ.
(HE, LH MODEL) MW VT ADJ.
SWITCH Q3 DTA143XS
SWITCH Q13 DTA143XS
Q4 DTA143XS
L6 (EEZ, EZ MODEL)
MW VT ADJ.
(HE, LH MODEL) SW VT ADJ.
Q5 DTA144TS SWITCH
Q6 DTA144TS SWITCH
L70, CT2 (EEZ, EZ MODEL)
MW TRACKING ADJ.
(HE, LH MODEL) SW TRACKING ADJ.
BAR ANT
AM RF AMP Q7 2SK161Y
VC3 KV1260TS2
VC4 KV1260TS2
Q10 2SK246Y LPF
Q11 2SC1815Y LPF
IC3 LC7218 (PLL)
X1 XTAL7.2MHz
X IN CE DI CL DO NC AS INO STIN0 NC OUT1 M.CONT OUT2 M.CONT OUT3 SW
X OUT GND NC PDI VCC FMIN AMIN OUT6 FM HCTR IF LCTR COUNTIN OUT5 OUT4
MUTE M/S CE DI CL DO
TO A MAIN C.B (1/2)


IC2
LA1831N (FM IF DET MPX AM OSC MIX IF DET)
IC3
LC7218 (PLL)
IC4
TA8126SN (DC-DC CONVERTOR)
Q12
DTA144TS
FM SWITCH
FM +B SWITCH
Q8
DTA144TS
Q10
2SK246Y
LPF
X2
CBA10.7
MG43A
L11
4.7uH
L10
100uH
L9
OSC DC-DC
TP2
TUNE:0
DETUNE
:5.1
Lch
Rch
GND
8V
5V
BEAT
SIGNAL
:FM
:MW/LW/SW
TO A MAIN C.B (1/2)
A MAIN C.B (1/2)

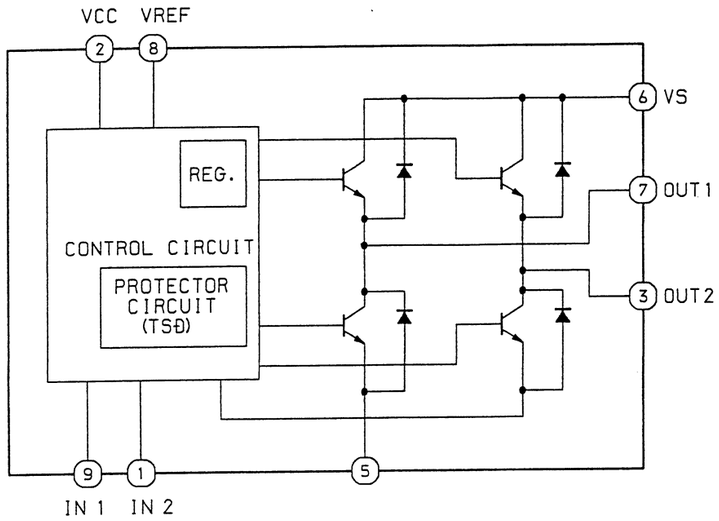

TO A MAIN C.B
CN601
RED
WHT
D POWER C.B
(PARTS SIDE)
PT901
(POWER TRANSFORMER)
J901
AC~
SW901
AC VOLTAGE
AC 110-120V/220-240V
BLU
RED
BRN

WIRING-3 (POWER)



IC BLOCK DIAGRAM

IC, TA7291S

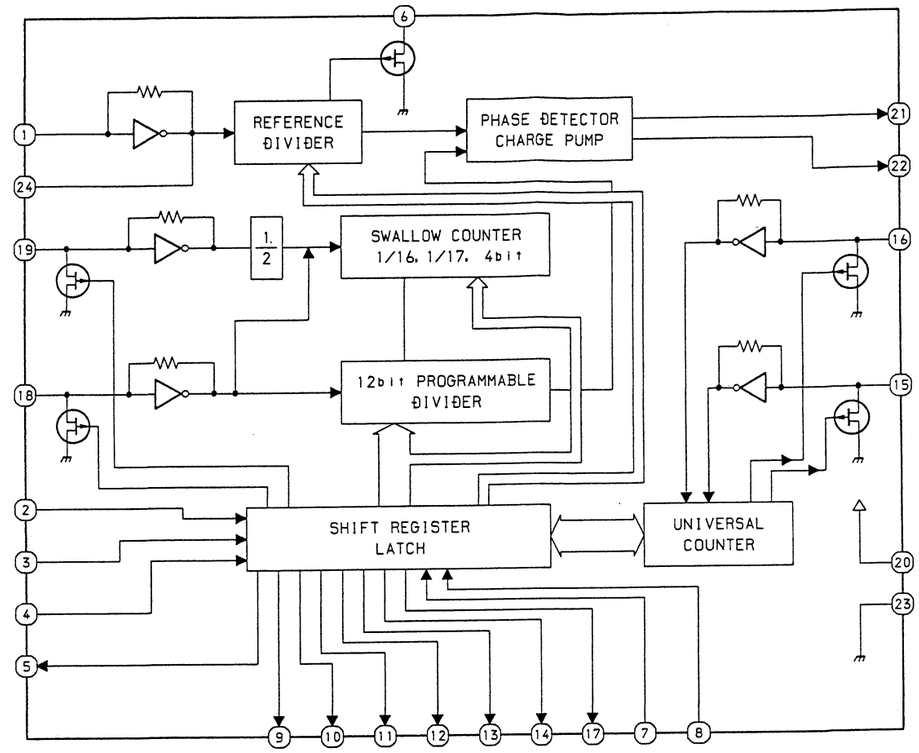


TRUTH TABLE

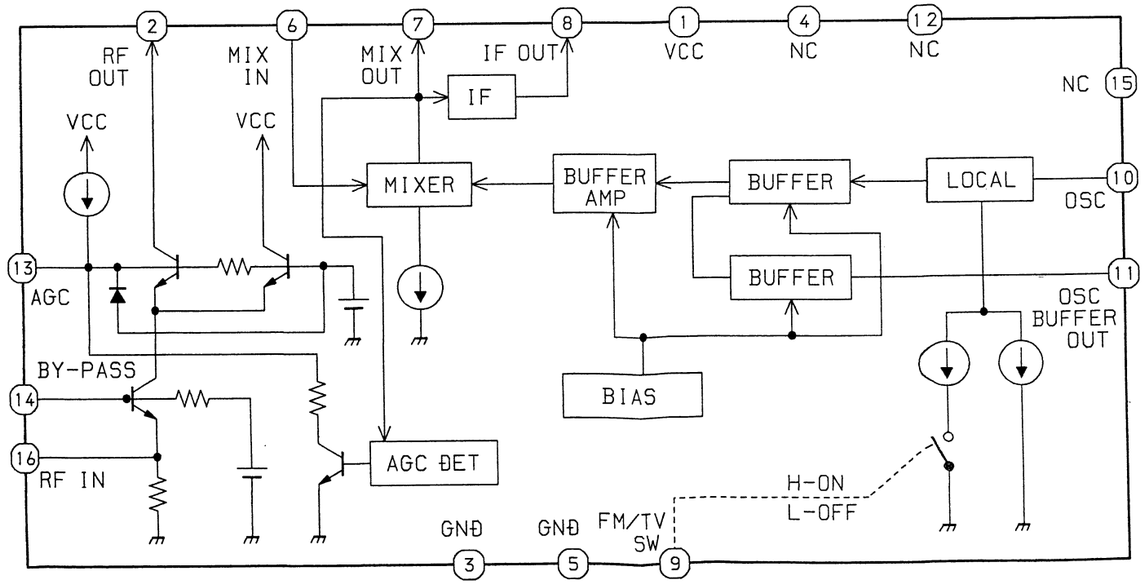
INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW
0	1	L	H	CCW
1	1	L	L	BRAKE

∞ : HI IMPEDANCE
NOTE : INPUT "H" ACTIVE

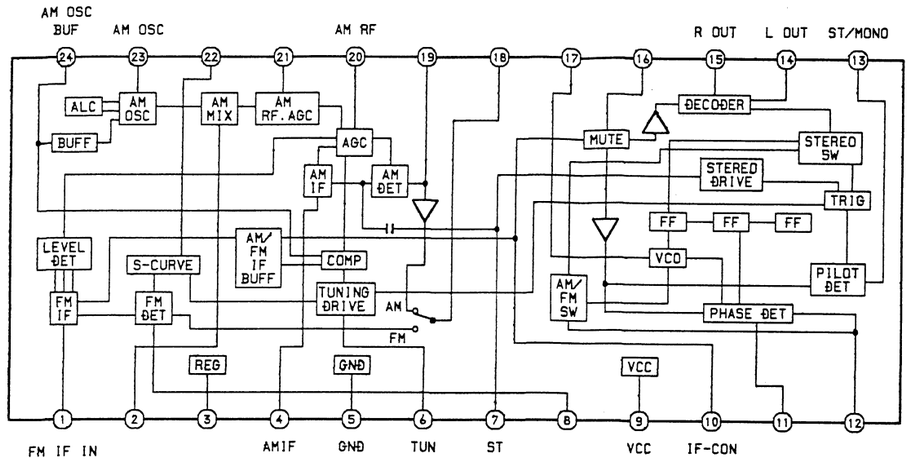
IC, LC7218



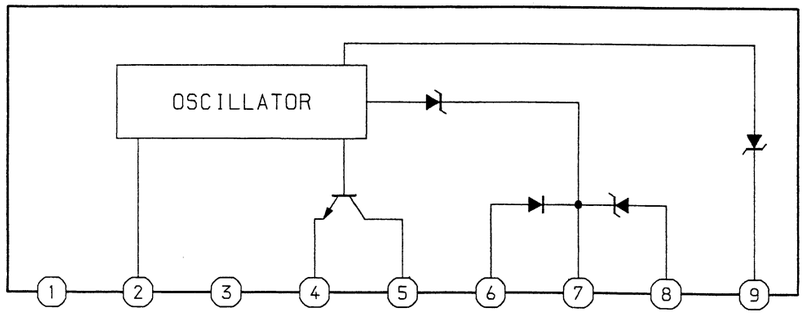
IC, TA8176SN



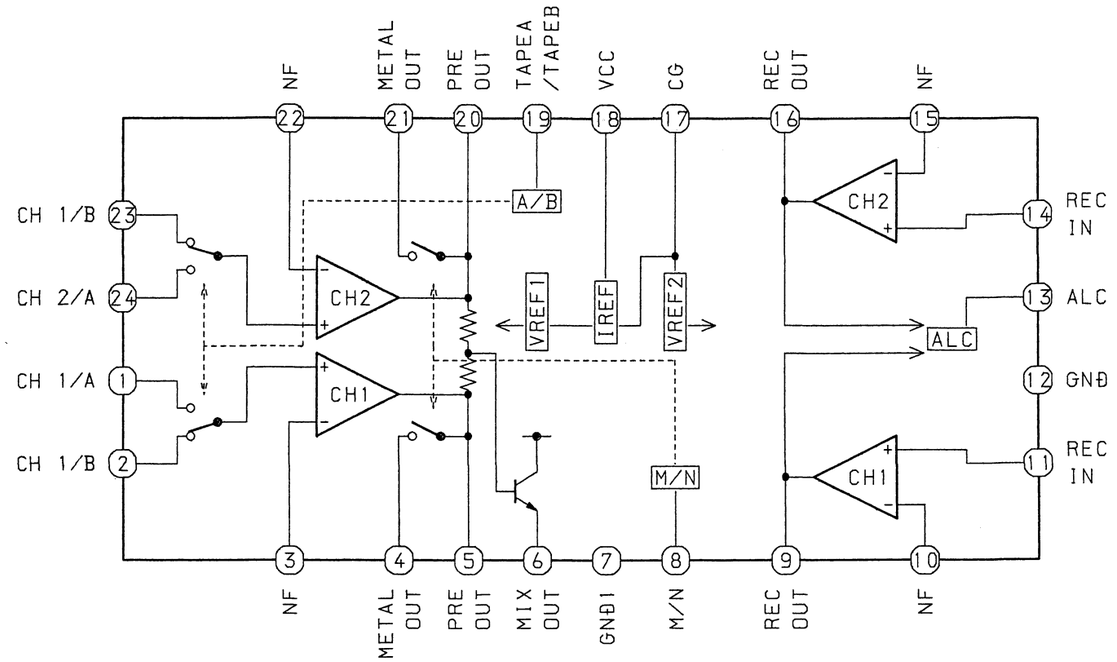
IC, LA1831N



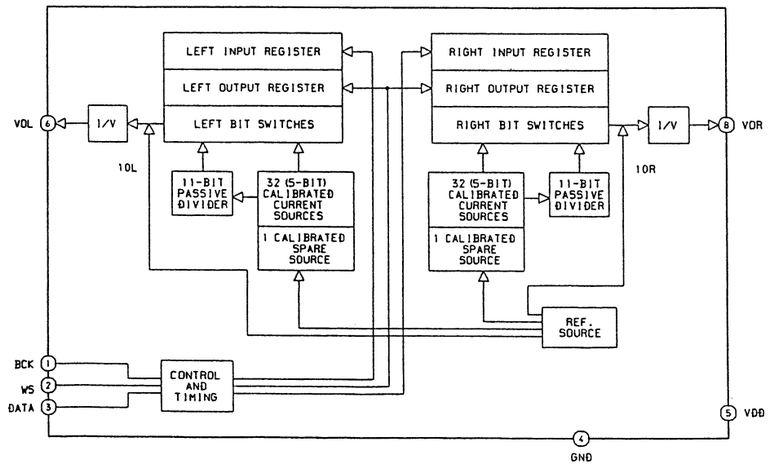
IC, TA8126S



IC, TA8189N



IC, TDA1311AT



IC DESCRIPTION

IC, TC9236F

Pin No.	Pin Name	I/O	Description
1	$\overline{\text{TEST4}}$	I	Test terminal. Normally "H" or open. (Not used.)
2	$\overline{\text{TEST5}}$	I	Test terminal. Normally "H" or open. (Not used.)
3	CK8M	O	8M clock output terminal. (Not used.)
4	COFS	O	Correction sytem frame frequency signal output terminal. 7.35 kHz (Not used.)
5	SPDA	O	Processor status signal output terminal. Correction/discrimination data, memory buffer capacity, etc. (Not used.)
6	PFCK	O	Playback system frame frequency signal output terminal. 7.35 kHz (Not used.)
7	SUBSYC	O	Subcode sync signal output terminal. (Not used.)
8	SUBQ	O	Subcode Q data output terminal. (Not used.)
9	SBOK	O	Subcode Q data CRC check data output terminal. OK when "H". (Not used.)
10	XI	I	Crystal oscillator connection terminal.
11	XO	O	Crystal oscillator connection terminal.
12	DVCC	—	Digital power voltage terminal. (+5 V)
13	DGND	—	Digital GND terminal.
14~17	BUS0~BUS3	I/O	Command and data send/receive I/O terminal.
18	$\overline{\text{CCE}}$	I	Chip enable signal input terminal for command and data send/recieve. Bus line active when "L".
19	BUCK	I	Command and data send/receive clock input terminal.
20	4MCK	O	4M clock output terminal. 4.2366 MHz (Not used.)
21	$\overline{\text{RST}}$	I	Reset input terminal. Internal system reset when "L".
22	CCNT	I	Subcode Q data control bit update inhibition signal input terminal. Update inhibitted when "H". (GND)
23	SUDO	O	Subcode P - W output terminal. (Not used.)
24	CLCK	I	Subcode P - W data read-out clock input terminal.
25	LOCK	O	Lock status output terminal. "L" when sync pattern siganal in EFM signal is not detected within 17 ms in runaway detection. (Not used.)
26	$\overline{\text{TEST1}}$	I	Test terminal. Normally "H" or open. (Not used.)
27	DFCT	O	Defect detection signal output terminal. VREF when a defect signal is detected: Normally HiZ. (Not used.)
28, 29	TEL2, TEL1	O	Tracking gain adjustment analog switch output terminal. VREF or HiZ.
30	TGUL	O	Analog switch output terminal for switching the low range phase compensator of the tracking servo loop. HiZ (gain up) when shock signal is detected; VREF when gain up.
31, 32	TGUH2, TGUH1	O	Analog switch output terminal for switching the middle and high range phase compensator of the tracking servo loop. HiZ (gain up) when shock signal is detected; normally VREF. TGUH1 is used when playing back in normal mode; TGUH2 when playing back in high speed mode. (Pin ㉛ is not used.)
33	TKIC	O	Tracking actuator kick signal output terminal. Kicked to an external cylinder when "H"; an internal cylinder when "L".

<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>34
35</td><td>FMON
$\overline{\text{FMON}}$</td><td>O</td><td>Feed servo ON/OFF analog switch output terminal. (Pin ㉟ is not used.)
<table>
<tr><th>Feed servo</th><th>FMON</th><th>$\overline{\text{FMON}}$</th></tr>
<tr><td>ON</td><td>HiZ</td><td>VREF</td></tr>
<tr><td>OFF</td><td>VREF</td><td>HiZ</td></tr>
</table></td></tr>
<tr><td>36</td><td>FMFB</td><td>I</td><td>Feed motor FWD/BWD operation control signal output terminal.
Feeds to an external cylinder when “H”; feeds to an internal cylinder when “L”.</td></tr>
<tr><td>37</td><td>$\overline{\text{TEST}}$</td><td>O</td><td>Test terminal. Normally “H” or open. (Not used.)</td></tr>
<tr><td>38</td><td>DMON</td><td>O</td><td>Analog switch output terminal for switching the gain of the disk motor drive circuit.</td></tr>
<tr><td>39</td><td>DMFC</td><td>O</td><td>Disk motor CLV servo AFC signal output terminal.
<table>
<tr><th>Command</th><th>DMFC output</th><th>Operation</th></tr>
<tr><td>DMFK</td><td>H</td><td>Motor accelerated</td></tr>
<tr><td>DMSV</td><td>PWM</td><td>CLV servo ON</td></tr>
<tr><td>DMBK</td><td>L</td><td>Motor decelerated</td></tr>
<tr><td>DMOFF</td><td>VREF</td><td>CLV servo OFF</td></tr>
</table></td></tr>
<tr><td>40</td><td>DMPC</td><td>O</td><td>Disk motor CLV servo APC signal output terminal.</td></tr>
<tr><td>41</td><td>2VREF</td><td>I</td><td>Two times reference voltage input terminal. (VREF × 2)</td></tr>
<tr><td>42</td><td>SEL</td><td>O</td><td>Servo mode indication signal output terminal.
<table>
<tr><th>SEL</th><th>LD ON/OFF</th><th>Focus servo</th><th>Operation mode</th></tr>
<tr><td>L</td><td>OFF</td><td>ON</td><td>LD OFF</td></tr>
<tr><td>HiZ</td><td>ON</td><td>OFF</td><td>Focus search</td></tr>
<tr><td>H</td><td>ON</td><td>ON</td><td>Normal PLAY etc.,
(Focus servo ON: FOK)</td></tr>
</table></td></tr>
<tr><td>43</td><td>FCSI</td><td>O</td><td>Focus actuator drive signal output terminal in focus search mode.
<table>
<tr><th>Command</th><th>FKIC output</th><th>Operation</th></tr>
<tr><td>FGASR</td><td>H</td><td>Lens distant from disk</td></tr>
<tr><td>FGSS</td><td>L</td><td>Lens near disk</td></tr>
<tr><td>Others</td><td>HiZ</td><td>Other than focus search</td></tr>
</table></td></tr>
<tr><td>44</td><td>FKIC</td><td>O</td><td>Focus actuator drive signal output terminal in focus gain adjustment mode. (Not used.)
<table>
<tr><th>Command</th><th>FKIC output</th><th>Operation</th></tr>
<tr><td>FGASR</td><td>H</td><td>Lens distant from disk</td></tr>
<tr><td>FGSS</td><td>L</td><td>Lens near disk</td></tr>
<tr><td>Other</td><td>HiZ</td><td>Other than focus gain adjustment</td></tr>
</table></td></tr>
<tr><td>45, 46</td><td>FEL2, FEL1</td><td>O</td><td>Focus gain adustment analog switch output termianal. (Not used.)</td></tr>
<tr><td>47</td><td>FEI</td><td>I</td><td>Focus error signal input terminal.</td></tr>
<tr><td>48</td><td>TESH</td><td>I</td><td>Analog switch input terminal for sample-holding of the tracking error signal.</td></tr>
<tr><td>49</td><td>TEOF</td><td>O</td><td>Analog switch input terminal for tracking servo ON/OFF. VFEF when tracking servo is OFF.</td></tr>
</table>

Pin No.	Pin Name	I/O	Description
50	SBAD	I	Sub-beam add signal input terminal.
51	RFRP	I	RF ripple signal input terminal.
52	VREF	I	Reference voltage input terminal. (+2.2 V)
53	RFI	I	RF signal input terminal.
54	AGND	—	Analog GND terminal.
55	DTSC2	O	EFM signal negative-phase output terminal for data slice control.
56	EFMO	O	EFM signal monitor output terminal. (Not used.)
57	DTSC1	O	EFM signal positive-phase output terminal for data slice control.
58	AVCC	—	Analog power voltage terminal. (+5 V)
59	PDCNT	I	PDO output control terminal. PDO output is involuntarily set to HiZ when "L".
60	PDO	O	Output terminal for phase difference signal between EFM and PLCK signals.
61	TMAX	O	TMAX signal output terminal. HiZ in system clock. TMAX cycle / TMAX output Longer than specified cycle / L Shorter than specified cycle / H (2VREF) Sspecified cycle / HiZ
62	LPFN	I	LPF amplifier negative-phase input terminal for PLL.
63	LPFO	O	LPF amplifier output terminal for PLL.
64	VCOF	I	VCO filter terminal.
65	VCOX	I	External VCO clock input terminal. (GND)
66	PLCK	O	Playback data read clock output terminal. (Not used.)
67～69	MOD0～MOD2	I	Internal operation mode setting input terminal. (GND)
70	WDCK	O	Word clock output terminal. Normally 88.2 kHz. (Not used.)
71	CHCK	O	Channel clock output terminal. Normally 44.1 kHz.
72	BCK	O	Bit clock output terminal. Normally 1.4112 MHz.
73	AOUT	O	Audio data output terminal.
74	CKSE	I	Internal clock selection terminal. (+5 V)
75	DOUT	O	Digital OUT output terminal. (Not used.)
76	$\overline{\text{TEST2}}$	I	Test terminal. Normally "H" or open. (Not used.)
77	$\overline{\text{HS}}$	O	High-speed monitor output terminal. High-speed mode when "L". (Not used.)
78	EMPH	O	Emphasis ON/OFF indication signal output terminal. Emphasis ON when "H".
79	$\overline{\text{TEST3}}$	I	Test terminal. Normally "H" or open. (Not used.)
80	MCK	O	Master clock output terminal. (Not used.)

IC, TA8191F

Pin No.	Pin Name	I/O	Description
1	TPO	O	Sub-beam I-V amplifier (TP AMP) output terminal.
2	TPI	I	Sub-beam I-V amplifier (TP AMP) input terminal.
3	TNI	I	Sub-beam I-V amplifier (TP AMP) input terminal.
4	FNI	I	Main-beam I-V amplifier (FM AMP) input terminal.
5	FPI	I	Laser diode amplifier (LD AMP) input terminal.
6	LDO	O	Laser diode amplifier (LD AMP) output terminal.
7	MDI	I	Monitor photo diode amplifier (MD AMP) input terminal.
8	RFN	I	RF amplifier (RF AMP) negative-phase input terminal.
9	RFO	O	RF amplifier (RF AMP) output terminal.
10	RFI	I	RF ripple signal output terminal.
11	VREF	O	Reference voltage output terminal. (+2.1 V)
12	RFRP	O	RF ripple signal output terminal.
13	SBAD	O	Scratch detection signal output terminal.
14	FEB	I	Focus error balance adjustment input terminal.
15	FEO	O	Focus error amplifier (FE AMP) output terminal.
16	SEL	I	Analog switch control signal input terminal.
17	VEE	—	Power terminal. (TA8190F: -5V; TA8191F: GND)
18	FSN	I	Focus output amplifier (FS AMP) negative-phase output terminal.
19	FSO	O	Focus output amplifier (FS AMP) output terminal.
20	COSC	O	Capacitor connection terminal for focus search signal generation.
21	OSCI	I	Built-in power supply control input terminal for focus search signal generation.
22	GND	—	GND.
23	VCC	I	Power supply terminal. (+5 V)
24	DMEP	I	Disk motor amplifier (DM AMP) positive-phase input terminal.
25	DMEN	I	Disk motor amplifier (DM AMP) negative-phase input terminal.
26	DMEO	O	Disk motor amplifier (DM AMP) output terminal.
27	DMPO	O	Disk motor drive amplifier (DMP AMP) output terminal. (Not used.)
28	PVR	I	Drive amplifier reference voltage input terminal.
29	FMPO	O	Feed motor drive amplifier (FMP AMP) output terminal.
30	FMEO	O	Feed motor drive amplifier (FM AMP) output terminal.
31	FMEN	I	Feed motor amplifier (FM AMP) negative-phase input terminal.
32	FMEP	O	Feed motor amplifier (FM AMP) positive-phase input terminal.
33	FAPO	O	Focus actuator drive amplifier (FAP AMP) output terminal. (Not used.)
34	2VRO	I	2VREF amplifier (2VREF AMP) output terminal.
35	2VRP	I	2VREF amplifier (2VREF AMP) positive-phase input terminal.
36	2VRN	I	2VREF amplifier (2VREF AMP) negative-phase input terminal.
37	TS2O	O	Tracking servo amplifier 2 (TS2 AMP) output terminal.
38	TS2N	I	Tracking servo amplifier 2 (TS2 AMP) negative-phase input terminal.
39	TS2P	I	Tracking servo amplifier 2 (TS2 AMP) positive-phase input terminal.
40	TS1O	O	Tracking servo amplifier 1 (TS1 AMP) output terminal.
41	TS1N	I	Tracking servo amplifier 1 (TS1 AMP) negative-phase input terminal.

Pin No.	Pin Name	I/O	Description
42	TS1P	I	Tracking servo amplifier 1 (TS1 AMP) positive-phase input terminal.
43	TSO	O	Tracking output amplifier (TS AMP) output terminal.
44	TSN	I	Tracking output amplifier (TS AMP) negative-phase input terminal.

IC, TMP47C820DF-NA41

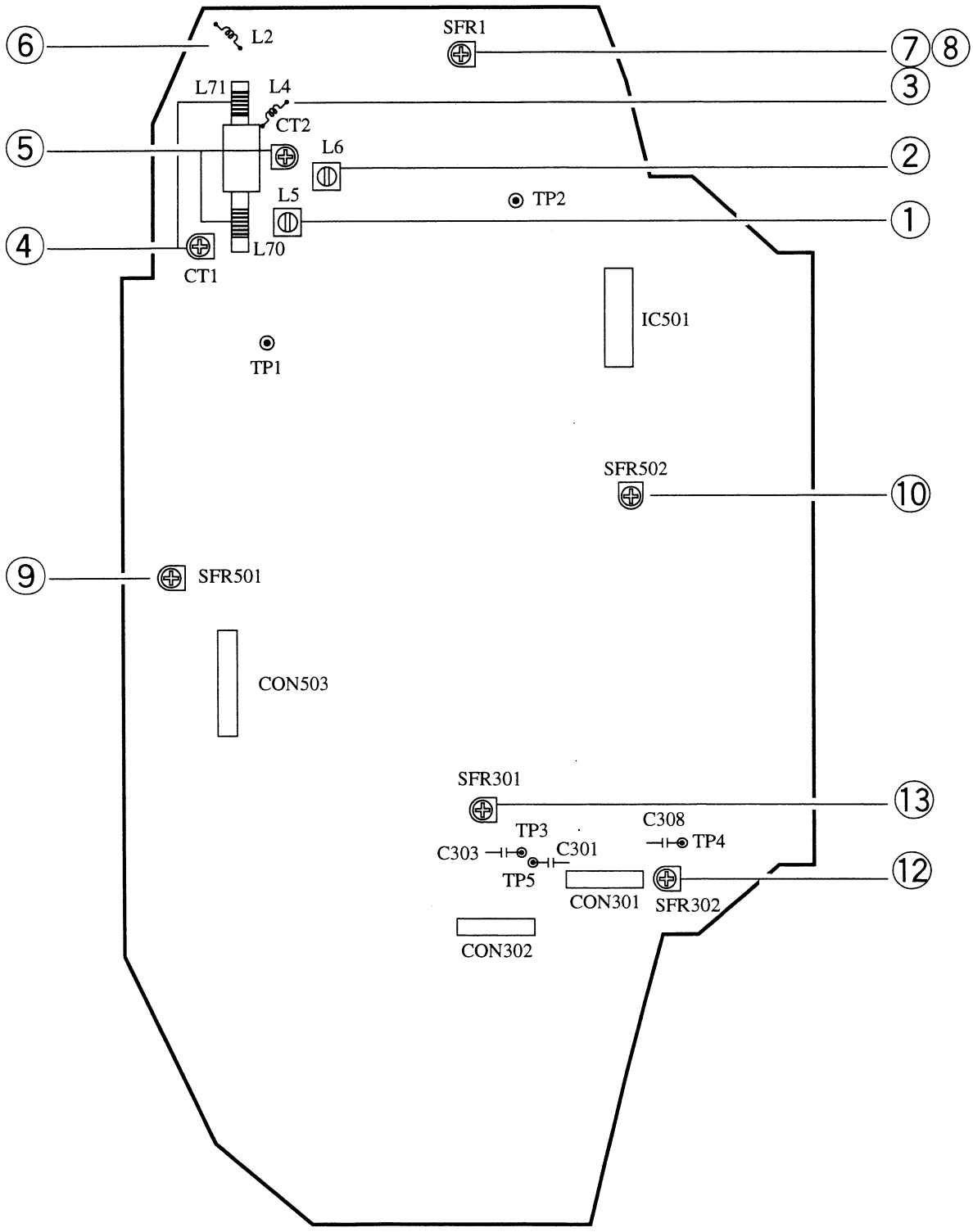
Pin No.	Pin Name	I/O	Description
1~4	SEG28~SEG31	O	Segment output terminal for LCD1-4. Segment output terminal for LCD.
5~7	COM1~COM3	O	Common output terminal for LCD.
8	COM4	—	Not used.
9	N. C	—	Not used.
10	VLC	I	LCD drive voltage setting. Normal: VSS level (GND)
11, 12	EQ. B, EQ. A	O	PRESET EQ control output.

EQ. A	EQ. B	
H	L	OFF
L	L	ROCK
H	H	POP
L	H	CLASSIC

13	$\overline{KO1}$	O	Key matrix output port.
14	$\overline{KO2}$	O	Key matrix output port.
15	VSS	—	GND.
16~18	$\overline{KO3}$~$\overline{KO5}$	O	Key matrix output port.
19	TU-MUTE	O	Mute output to tuner: Mute on at H output.
20	TEST	—	Not used.
21	X IN	I	4.19MHz clock oscillation input.
22	X OUT	O	4.19MHz clock oscillation output.
23	$\overline{RESET}$	I	Reset signal input. ("L" when reset.)
24	$\overline{HOLD}$	I	Hold signal input. (+5 V)
25~28	$\overline{KI1}$~$\overline{KI4}$	I	Key matrix input port.
29	REMOTE	I	Wireless remote control input.
30	OP	O	CD loading: OPEN output
31	CLS	O	CD loading: CLOSE output
32	MUTE	O	Mute on at H output.
33	VDD	—	+5 V power supply.
34	SI	I	Tuner data input.
35	SO	O	Tuner data output.
36	SCLK	O	Tuner data clock.
37~40	BUS0~BUS3	I/O	Send/receive bus line to/from CD processor. (Not used.)
41	$\overline{CCE}$	I/O	Command and data processing control I/O.
42	BUCK	O	Command and data send/receive clock output.
43	$\overline{PU\ INNER}$	I	Detects that the pickup is positioned at the most internal cylinder. Most internal cylinder when "L".
44	CLOSE	I	CD loading: CLOSE detection
45	CD	I	Function CD. CD when "H".
46	TUNER	I	Function TUNER. TUNER when "H".
47	$\overline{CD\ RESET}$	I	CD circuit initialize signal input. (Reset when "L".)
48	OPEN	I	CD loading: OPEN-SW detection
49	R70	O	High speed dubbing output.

Pin No.	Pin Name	I/O	Description
50	PLLCE	O	Tuner CE. Controls the tuner PLL IC.
51	X IN	I	32.768kHz clock oscillation input for display.
52	X OUT	O	32.768kHz clock oscillation output for display. (Not used.)
53～61	SEG0～SEG8	O	Not used.
62～80	SEG9～SEG27	O	Segment output terminal for LCD display.

A MAIN C.B (PARTS SIDE)



< RADIO SECTION >

1. MW VT Adjustment (HE, LH models)
   1) Set the function to MW and set the frequency display to 530 kHz.
   2) Adjust L5 of the MW OSC coil until the VT voltage at TP1 becomes 1.2±0.05 V.
   3) Set the frequency display to 1635 kHz. Confirm that the VT voltage is 8.5±0.4 V.

1. LW VT Adjustment (EEZ, EZ models)
   1) Set the function to LW and set the frequency display to 153 kHz.
   2) Adjust L5 of the LW OSC coil until the VT voltage at TP1 becomes 2.0±0.05 V.
   3) Set the frequency display to 288 kHz. Confirm that the VT voltage is 6.0±0.5 V.

2. SW VT Adjustment (HE, LH models)
   1) Set the function to SW and set the frequency display to 3.8 MHz.
   2) Adjust L6 of the SW OSC coil until the VT voltage at TP1 becomes 1.2±0.05 V.
   3) Set the frequency display to 12.5 MHz. Confirm that the VT voltage is 8.4±0.5 V.

2. MW VT Adjustment (EEZ, EZ models)
   1) Set the function to MW and set the frequency display to 522 kHz.
   2) Adjust L6 of the MW OSC coil until the VT voltage at TP1 becomes 1.3±0.05 V.
   3) Set the frequency display to 1611 kHz. Confirm that the VT voltage is 7.7±0.5 V.

3. FM VT Adjustment
   1) Set the function to FM and set the frequency display to 87.5 MHz.
   2) Adjust L4 until the VT voltage at TP1 becomes 4.0±0.1 V.
   3) Set the frequency display to 87.5 MHz. Confirm that the VT voltage is 4.0±0.1 V.

4. MW Tracking Adjustment (HE, LH models)
   L71 ..... 600 kHz
   CT1 ..... 1400 kHz

4. LW Tracking Adjustment (EEZ, EZ models)
   L71 ..... 153 kHz
   CT1 ..... 288 kHz

5. SW Tracking Adjustment (HE, LH models)
   L70 ..... 3.8 MHz
   CT2 ..... 12.5 MHz

5. MW Tracking Adjustment (EEZ, EZ models)
   L70 ..... 603 kHz
   CT2 ..... 1404 kHz

6. FM Tracking Adjustment
   L2 ..... 87.5 MHz

7. FM AUTO STOP Level Adjustment
   Condition: • Adjustment point: SFR1
   • Test point: TP2
   Method: Adjust SFR1 to obtain 30±1 dB at FM 98.0 MHz.

8. MW AUTO STOP Level Adjustment
   Condition: • Adjustment point: SFR1
   • Test point: TP2
   Method: Adjust SFR1 to obtain 55 dB±8 dB at MW 1000 kHz (HE, LH) / 999 kHz (EEZ, EZ).

< TAPE RECORDER SECTION >

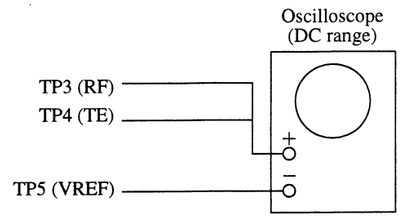
9. Tape Speed Adjustment
   Condition: • Test tape: TTA-100 (TTA-111S)
   • Test point: Headphone output (J601)
   • Adjustment location: SFR501
   Method: Playback the test tape and adjust so that the frequency counter reading becomes 3 kHz.

10. Bias Adjustment
    Condition: • Adjustment location: SFR502
    Method: Setup the record mode. Activate bias oscillator. Adjust so that the test point voltage becomes 14 V to 15 V on voltmeter. (Perform this adjustment for both decks 1 and 2.)

11. Azimuth Adjustment
    Condition: • Test tape: TTA-320 (TTA-113B, TTC-152)
    • Test point: Headphone output (J601)
    • Adjustment location: Azimuth adjustment screw
    Method: Playback the test tape and adjust so that the waveform on the oscilloscope is maximum. (Perform this adjustment on the both deck 1 and deck 2.)

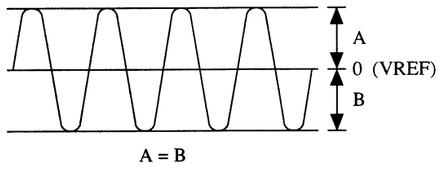
< CD SECTION >

Oscilloscope connection diagram



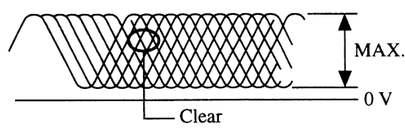
Connect the (-) terminal of an oscilloscope to TP3 (VREF) of an oscilloscope during adjustment.

12. Tracking Balance Adjustment
    1) Connect an oscilloscope to between test point TP4 (TE) and TP5 (VREF).
    2) Insert the disk YEDS-18 (YEDS-1) and press PLAY.
    3) Press REPEAT to enter the repeat mode.
    4) Keep pressing the ⏭ button. (MS state)
    5) Adjust SFR302 until the traverse waveform is vertically symmetrical on oscilloscope.



VOLT/DIV: 200mV
TIME/DIV: 1mS

13. Focus Balance Adjustment
    1) Connect an oscilloscope to between test point TP3 (RF) and TP5 (VREF).
    2) Insert the disk YEDS-18 (YEDS-1) and press PLAY.
    3) Adjust SFR301 until the waveform is maximum on oscilloscope.



VOLT/DIV: 200mV
TIME/DIV: 0.5µS

PRACTICAL SERVICE FIGURE

< RADIO SECTION >

HE MODEL

Sensitivity:	
(IHF, THD 3%)	FM Less than 24dB (98MHz)
(S/N 10dB)	MW 50±4dB (999kHz)
(S/N 10dB)	SW Less than 48dB (8MHz)

LH MODEL

Sensitivity:	
(IHF, THD 3%)	FM Less than 24dB (98MHz)
(S/N 10dB)	AM 50±4dB (1000kHz)

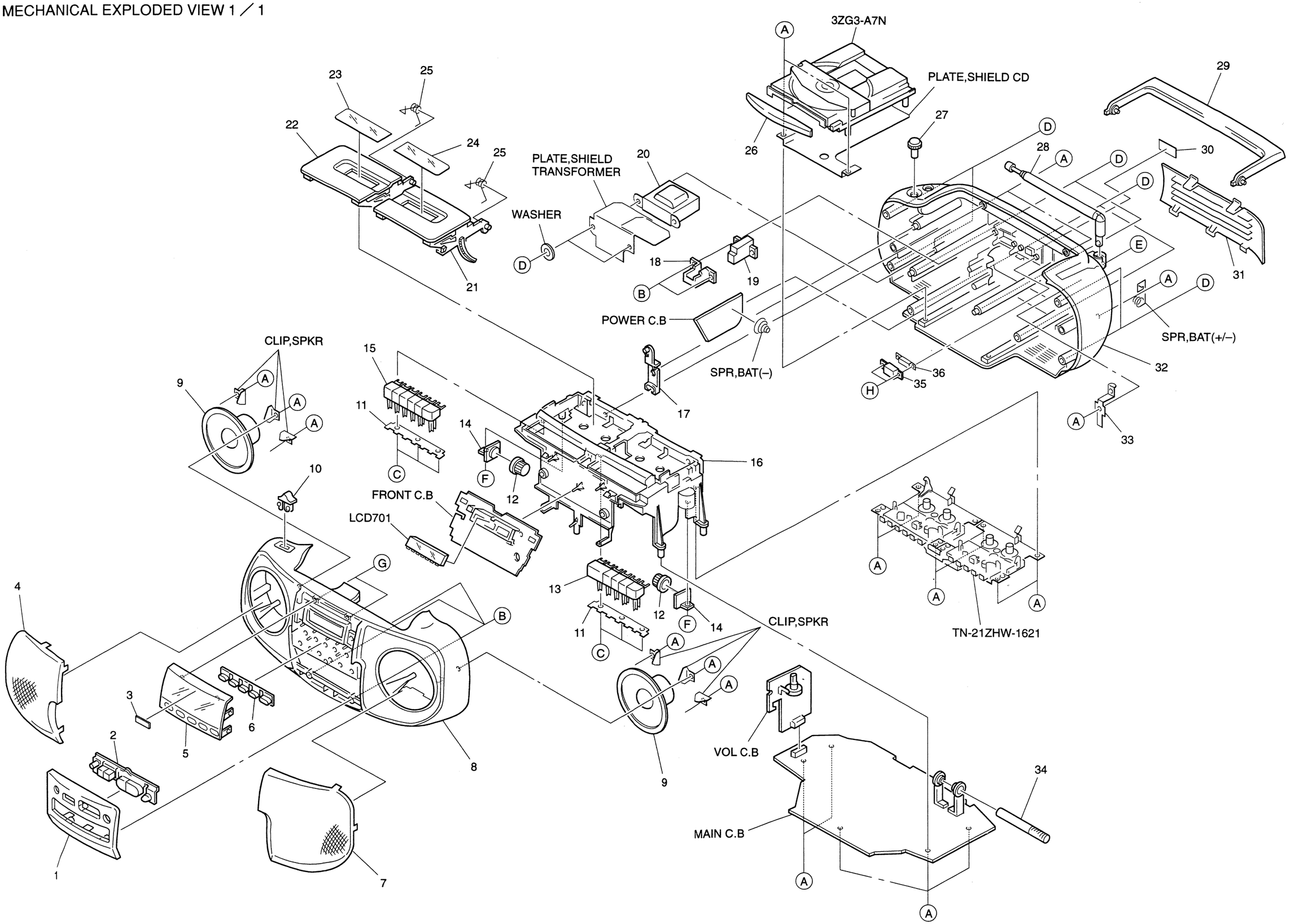
EEZ, EZ MODELS

Sensitivity:	
(IHF, THD 3%)	FM Less than 24dB (98MHz)
(S/N 10dB)	MW 50±4dB (999kHz)
(S/N 10dB)	LW 54±4dB (207kHz)
Intermediate frequency:	FM 10.7MHz AM 450kHz
FM stereo separation:	27±3dB (98MHz)

< TAPE RECORDER SECTION >

Recording bias frequency:	71.5±0.5kHz
Erasing ratio (W/FILTER):	50dB
Distortion (T, H, D 10%):	Less than 4.8% (PB)
S/N ratio:	40dB (AC/DC, PB) 35dB (AC/DC, REC/PB)
Noise (PB):	Less than 1mV (AC/DC, MIN)
Tape speed:	$3000\pm^{3}_{2}$Hz
Wow & flutter:	0.35% (JIS, UN WTD)
Take-up torque:	40～70g-cm
F.F & REW torque:	Less than 50g-cm

MECHANICAL EXPLODED VIEW 1 ／ 1

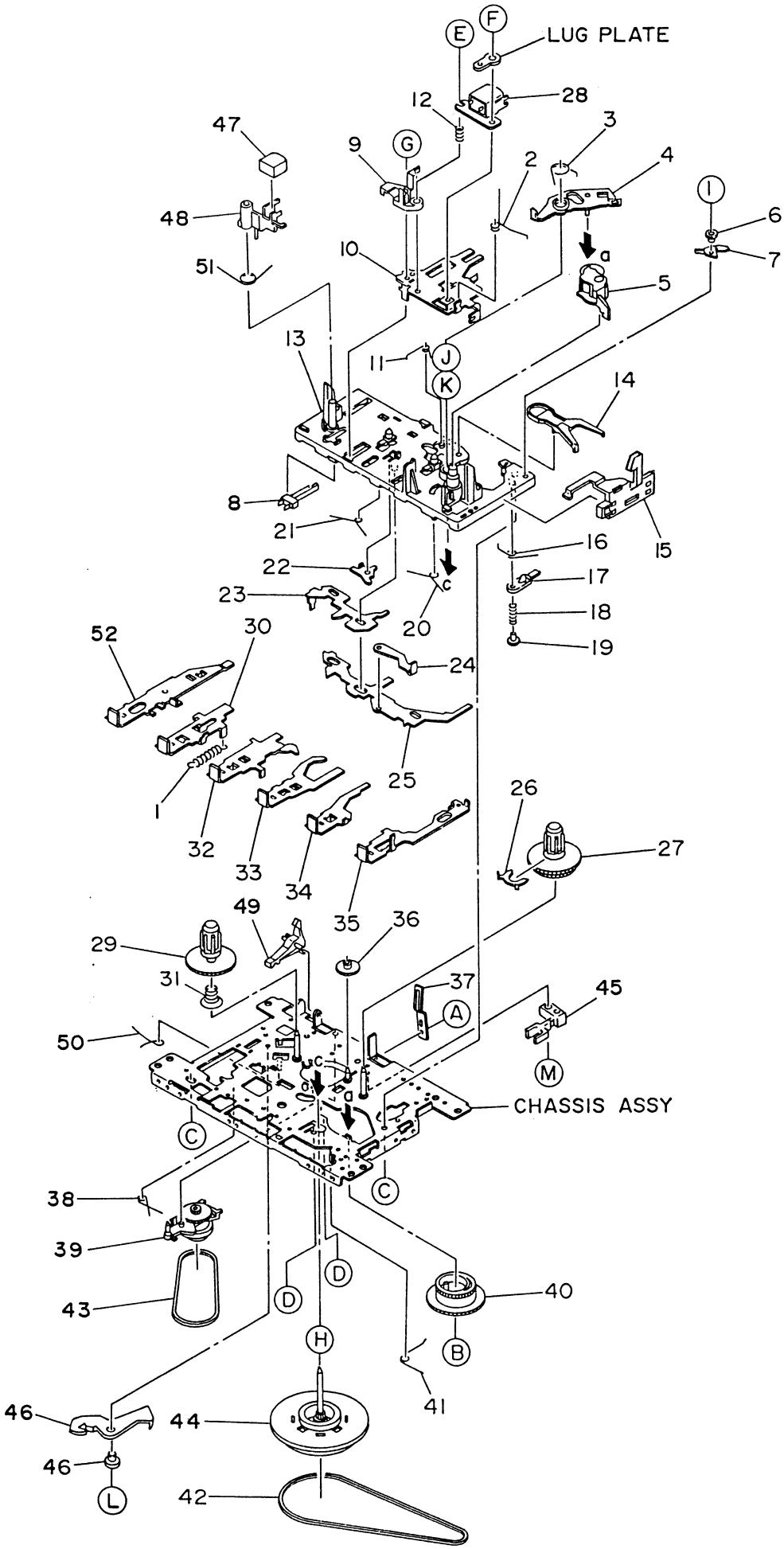


MECHANICAL PARTS LIST 1／1

DESCRIPTION で判断できない物は “REFERENCE NAME LIST” を参照してください。
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO.	PART NO.	カンリ NO.	DESCRIPTION
1	S5-438-030-200		PANEL,FRONT(SR615EX)
2	S5-438-140-010		KNOB,CD(GRY)
3	S0-410-210-000		LOGO AIWA
4	S5-438-220-010		GRILL,SPKR(L)
5	S5-438-040-200		WINDOW DISPLAY(SR615EX)
6	S5-438-130-000		KNOB,BAND(BLK)
7	S5-438-230-010		GRILL,SPKR(R)
8	S5-438-010-200		CAB,FRONT(SR615EX)
9	S4-040-080-140		SPEAKER(BLK)
10	S5-438-160-000		KNOB,FUNCTION(D-GRY)
11	S5-438-240-000		HOLDER KNOB
12	S7-138-260-000		GEAR,DOOR CASS
13	S5-438-180-000		KNOB,CASS(R)
14	S7-138-270-000		HOLDER,GEAR DOOR,CASS
15	S5-438-170-000		KNOB,CASS(L)
16	S5-438-070-010		CHASSIS CD
17	S5-438-200-000		LEVER,FUNCTION(BLK)
18	S2-838-070-000		AC SOCKET COVER BLK
⚠19	S2-201-000-050		AC SOCKET 220V<HE,EEZ,EZ>
19	87-099-711-019		SOCKET,AC(CSDSR510)<LH>
⚠20	S4-854-381-400		PT,EI-57/24(EZ)<EEZ,EZ>
⚠20	S4-954-381-300		PT,EI-57/24(H)<HE,LH>
21	S5-438-060-100		DOOR,CASS(R)
22	S5-438-050-100		DORR,CASS(L)
23	S5-438-300-100		LENS,DOOR CASS(L)
24	S5-438-310-100		LENS,DOOR CASS(R)
25	S5-438-320-000		SPR,DOOR CASS
26	S5-438-100-100		PANEL,CD
27	S5-438-150-000		KNOB,VOLUME
28	S0-172-380-000		ANT,ROD TELECOPIC
29	S5-438-090-000		HANDLE(D-GRY)
30	S5-438-410-000		PLATE VOLTAGE<EEZ,EZ>
31	S5-438-080-010		DOOR,BAT
32	S5-438-020-200		CAB,REAR(SR615EX)
33	S5-438-260-000		PLATE,ANT
34	S0-101-000-010		FERRI,BAR 10-100M(SW)<HE,LH>
34	S0-101-000-000		FERRI,BAR 10-100MM (LW)<EEZ,EZ>
35	S2-838-080-000		VOLT,SW COVER<HE,LH>
⚠36	S1-200-000-030		SW,SLIDE SS12J01M-A-65<HE,LH>
A	87-741-096-410		SCREW,ST3-10MM
C	87-743-073-410		SCREW,ST2.6-6MM
D	87-751-102-410		SCREW,ST 3-20
E	87-741-096-010		SCREW,3-10MM PM
F	87-261-095-010		SCREW,ST3-8MM HEAD V5.9-6.3 B
G	87-751-074-410		SCREW,ST 2.6-8
H	87-343-075-210		SCREW,ST 2.6-10<HE,LH>

TAPE MECHANISM EXPLODED VIEW 1 / 2

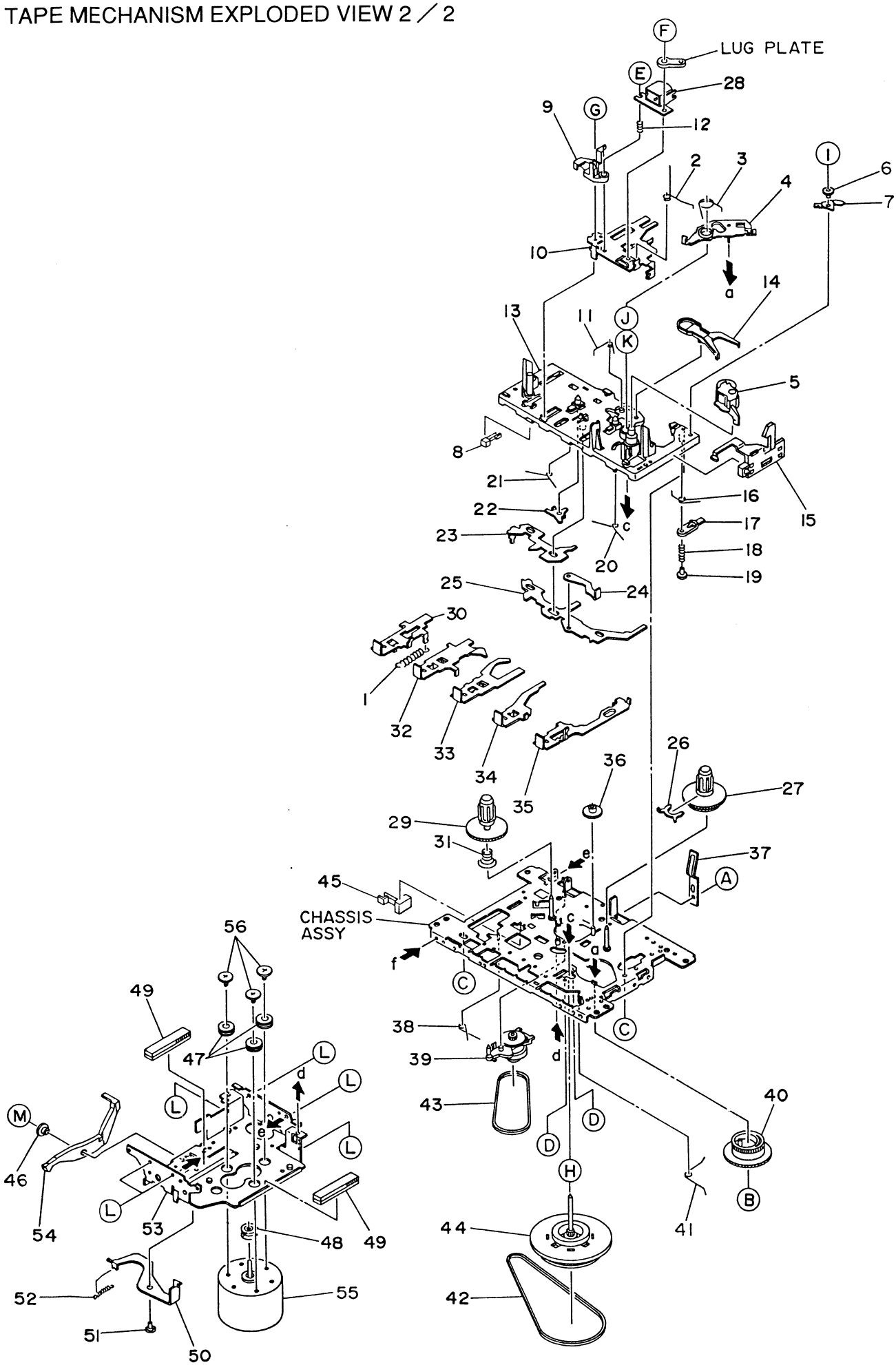


TAPE MECHANISM PARTS LIST 1 ／ 2

DESCRIPTIONで判断できない物は “REFERENCE NAME LIST” を参照してください。
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO.	PART NO.	カンリ NO.	DESCRIPTION
1	S1-821-010-500		PLAY BUTTON LEVER SPRING
2	S1-921-030-090		PANEL P SPRING
3	S1-921-260-050		GEAR PLATE SPRING
4	S1-921-265-020		GEAR PLATE ASSY
5	S1-921-043-000		PINCH ROLLER ARM ASSY
6	S1-921-140-370		P ARM COLLER
7	S1-921-140-340		P ARM
8	S6-401-011-520		LEAF SW MSW-1541F
9	S1-921-030-4A0		HEAD BASE
10	S1-921-030-110		HEAD PANEL
11	S1-921-140-18A		M CONTROL SPRING
12	S1-821-030-070		AZIMUTH SPRING
13	S1-921-143-010		BASE ASSY
14	S1-921-260-4A0		SENSING LEVER
15	S1-921-130-010		EJECT SLIDE LEVER
16	S1-921-140-13A		P CONTROL SPRING
17	S1-921-140-820		PAUSE LEVER(F)
18	S1-921-140-120		PAUSE LEVER SPRING
19	S1-921-140-110		PAUSE STOPPER
20	S1-921-140-150		BUTTON LEVER SPRING(B)
21	S1-921-140-140		BUTTON LEVER SPRING(A)
22	S1-921-140-200		PR STOPPER
23	S1-921-140-090		SWITCH ACTUATOR
24	S1-821-011-590		E KICK LEVER
25	S1-921-140-080		PUSH BUTTON ACTUATOR
26	S1-921-050-060		SENSER
27	S1-921-053-030		TAKE UP REEL ASSY
28	S6-201-011-110		HEAD,RP7442ES-0951
29	S1-921-053-040		SUPPLY REEL ASSY
30	S1-921-140-230		PLAY BUTTON LEVER
31	S1-821-100-990		BACK TENSION SPRING
32	S1-921-140-240		REW BUTTON LEVER
33	S1-921-140-250		FF BUTTON LEVER
34	S1-921-140-260		STOP BUTTON LEVER
35	S1-921-140-610		PAUSE BUTTON LEVER
36	S1-821-100-700		FF GEAR
37	S1-829-100-010		PACK SPRING
38	S1-921-140-170		P.S.LEVER SPRING
39	S1-921-073-080		RF CLUTCH ASSY
40	S1-921-260-020		CAM GEAR
41	S1-921-140-160		E ACTUATOR SPRING
42	S1-921-090-240		MAIN BELT
43	S1-921-070-030		RF BELT
44	S1-921-093-030		FLYWHEEL ASSY
45	S6-401-010-380		LEAF SW MSW-1275
46	S1-921-020-010		REC ARM
47	S6-209-100-100		E HEAD PH-K380-MS1
48	S1-921-030-050		MG ARM
49	S1-821-100-690		RECORD SAFETY LEVER
50	S1-921-140-210		REC BUTTON LEVER SPRING
51	S1-921-030-100		MG ARM SPRING
52	S1-921-140-220		REC BUTTON LEVER
A	S9-P33-200-320		DEL TITE SCREWM2-3
B	S9-422-000-000		P WASHER CUT 12-3.8-0.3
C	S9-679-000-000		P TAP SCREW M2-5
D	S9-999-180-090		TAP SCREW M2-4.5
E	S9-922-000-000		AZIMUTH SCREW M2-8
F	S9-115-000-000		+ BIND SCREW M2-3
G	S9-004-000-000		SCREW M2-6
H	S9-882-000-000		P WASHER 2-3.5-0.4
I	S9-999-200-410		P TAP SCREW M2-3
J	S9-999-030-130		P WASHER CUT 1.45-3.8-0.
K	S9-999-000-030		P WASHER2.1-4-0.13
L	S9-180-000-000		C TAP SCREW M2-4
M	S9-181-000-000		C TAP SCREW M2-5

TAPE MECHANISM EXPLODED VIEW 2 / 2



TAPE MECHANISM PARTS LIST 2／2

DESCRIPTION で判断できない物は “REFERENCE NAME LIST” を参照してください。
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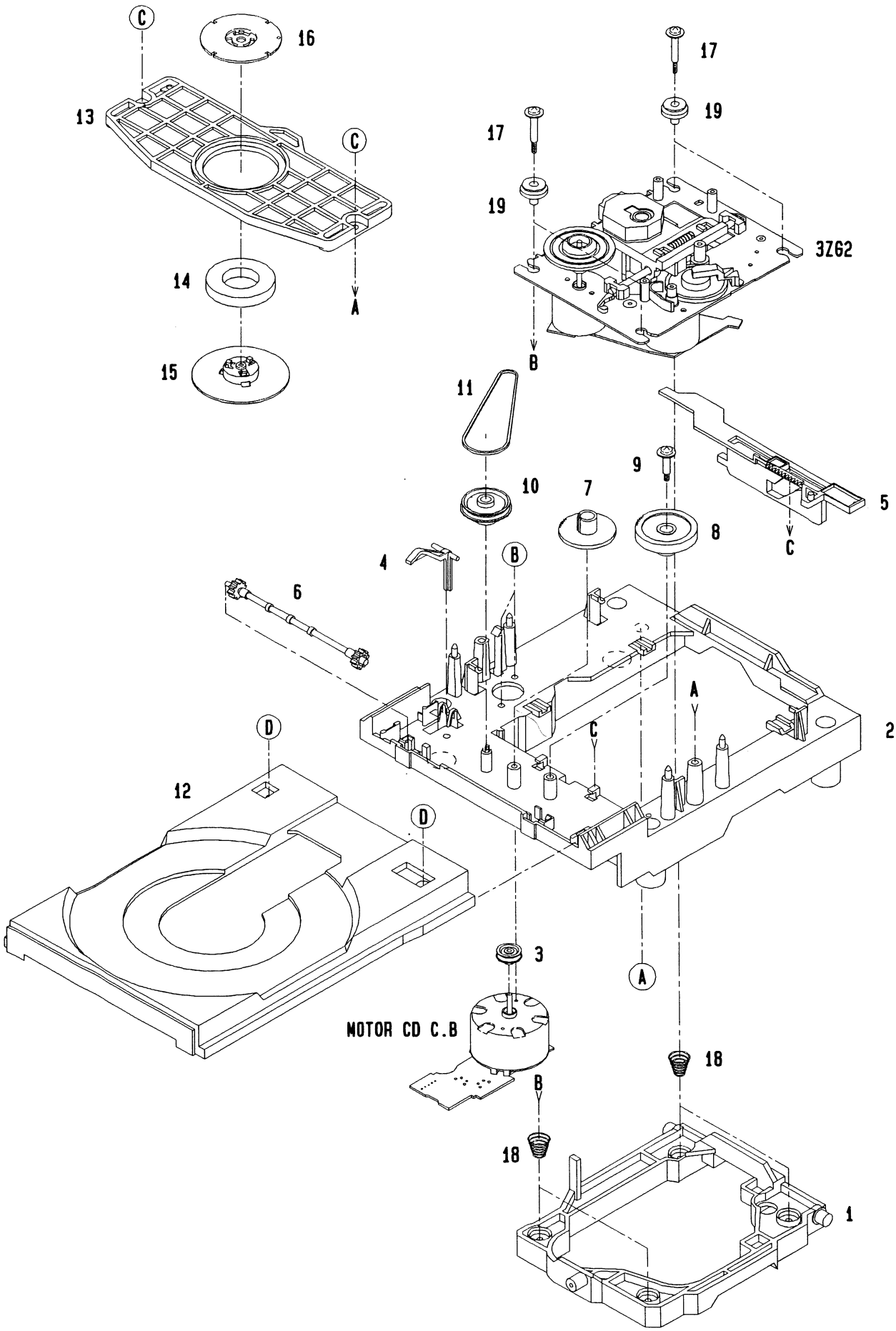
REF. NO.	PART NO.	カンリ NO.	DESCRIPTION
1	S1-821-010-500		PLAY BUTTON LEVER SPRING
2	S1-921-030-090		PANEL P SPRING
3	S1-921-260-050		GEAR PLATE SPRING
4	S1-921-265-020		GEAR PLATE ASSY
5	S1-921-043-000		PINCH ROLLER ARM ASSY
6	S1-921-140-370		P ARM COLLER
7	S1-921-140-340		P ARM
8	S6-401-011-520		LEAF SW MSW-1541F
9	S1-921-030-4A0		HEAD BASE
10	S1-921-030-110		HEAD PANEL
11	S1-921-140-18A		M CONTROL SPRING
12	S1-821-030-070		AZIMUTH SPRING
13	S1-921-143-010		BASE ASSY
14	S1-921-260-4A0		SENSING LEVER
15	S1-921-130-010		EJECT SLIDE LEVER
16	S1-921-140-13A		P CONTROL SPRING
17	S1-921-140-820		PAUSE LEVER(F)
18	S1-921-140-120		PAUSE LEVER SPRING
19	S1-921-140-110		PAUSE STOPPER
20	S1-921-140-150		BUTTON LEVER SPRING(B)
21	S1-921-140-140		BUTTON LEVER SPRING(A)
22	S1-921-140-200		PR STOPPER
23	S1-921-140-090		SWITCH ACTUATOR
24	S1-821-011-590		E KICK LEVER
25	S1-921-140-080		PUSH BUTTON ACTUATOR
26	S1-921-050-060		SENSER
27	S1-921-053-030		TAKE UP REEL ASSY
28	S6-201-011-110		HEAD,RP7442ES-0951
29	S1-921-053-040		SUPPLY REEL ASSY
30	S1-921-140-230		PLAY BUTTON LEVER
31	S1-821-100-990		BACK TENSION SPRING
32	S1-921-140-240		REW BUTTON LEVER
33	S1-921-140-250		FF BUTTON LEVER
34	S1-921-140-260		STOP BUTTON LEVER
35	S1-921-140-610		PAUSE BUTTON LEVER
36	S1-821-100-700		FF GEAR
37	S1-829-100-010		PACK SPRING
38	S1-921-140-170		P.S.LEVER SPRING
39	S1-921-073-080		RF CLUTCH ASSY
40	S1-921-260-020		CAM GEAR
41	S1-921-140-160		E ACTUATOR SPRING
42	S1-921-090-240		MAIN BELT
43	S1-921-070-030		RF BELT
44	S1-921-093-040		FLYWHEEL ASSY
45	S6-401-011-610		LEAF SW MSW-17820MVEI
46	S1-821-120-650		COLLER B
47	S1-820-130-060		MOTOR RUBBER
48	S1-921-120-130		MOTOR PULLEY
49	S1-921-120-120		ANTI VIBR FELT MAT
50	S1-821-120-680		P KICK LEVER (A)
51	S1-821-120-230		PK COLLER SCREW A
52	S1-821-120-250		P KICK LEVER SPRING
53	S1-921-120-110		MOTOR BRACKET
54	S1-921-120-090		P KICK LEVER
55	S6-002-030-290		MOTOR EG530YD-2BH
56	S1-821-120-020		MOTOR COLLER SCREW
A	S9-P33-200-320		DEL TITE SCREWM2-3
B	S9-422-000-000		P WASHER CUT 12-3.8-0.3
C	S9-679-000-000		P TAP SCREW M2-5
D	S9-999-180-090		TAP SCREW M2-4.5
E	S9-922-000-000		AZIMUTH SCREW M2-8
F	S9-115-000-000		+ BIND SCREW M2-3
G	S9-004-000-000		SCREW M2-6
H	S9-882-000-000		P WASHER 2-3.5-0.4
I	S9-999-200-410		P TAP SCREW M2-3
J	S9-999-030-130		P WASHER CUT 1.45-3.8-0.
K	S9-999-000-030		P WASHER2.1-4-0.13
L	S9-180-000-000		C TAP SCREW M2-4
M	S9-182-000-000		C TAP SCREW M2-6

CD MECHANISM EXPLODED VIEW 1 / 2



CD MECHANISM PARTS LIST 1／2

DESCRIPTIONで判断できない物は “REFERENCE NAME LIST” を参照してください。
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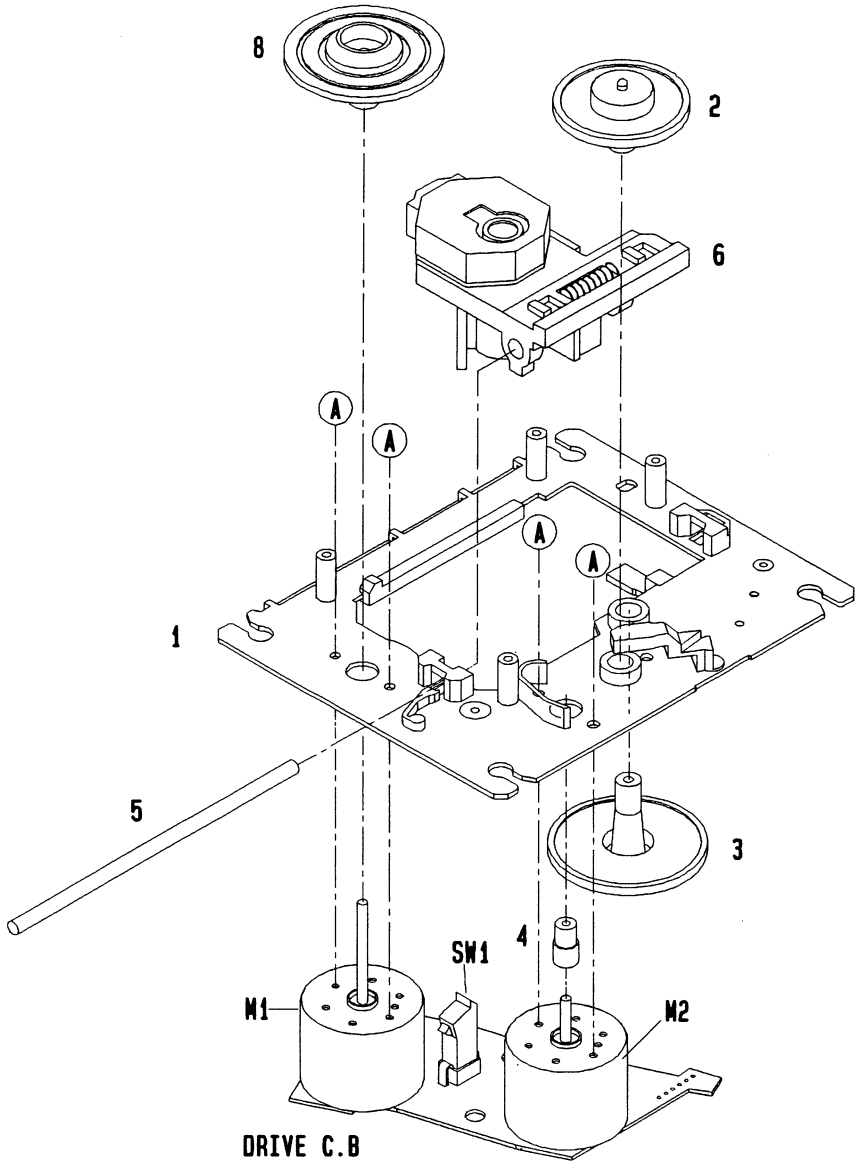
REF. NO.	PART NO.	カンリ NO.	DESCRIPTION
1	83-ZG3-202-01K		HLDR,MECH
2	83-ZG3-228-21K		CHAS,L6
3	83-ZG3-208-01K		PULLEY,MOTOR
4	83-ZG3-213-01K		LVR,SW
5	83-ZG3-209-01K		CAM,SLIDE
6	83-ZG3-207-01K		GEAR,TRAY
7	83-ZG3-204-01K		GEAR,C
8	83-ZG3-205-01K		GEAR,D
9	83-ZG3-217-019		S-SCREW,GEAR D
10	83-ZG3-220-11K		GEAR,PULLEY 2
11	83-ZG3-214-019		BELT,L
12	83-ZG3-229-01K		TRAY,CD 2
13	83-ZG3-210-01K		HLDR,CHUCK
14	83-ZG3-602-010		RING,MAG
15	83-ZG3-212-01K		CAP,DISC
16	83-ZG3-211-01K		PLATE,DISC
17	81-ZG1-254-019		S-SCEW,MECH HLDR
18	83-ZG3-216-019		SPR-C,L
19	83-ZG3-215-019		CUSH-G,MAIN
A	87-067-945-119		VFT2+3-12(F10)
B	87-251-071-119		U+2.6-4
C	87-512-074-219		VFT2+2.6-8
D	87-352-075-219		VT2+2.6-10

CD MECHANISM EXPLODED VIEW 2 ／ 2



CD MECHANISM PARTS LIST 2 ／ 2

DESCRIPTION で判断できない物は “REFERENCE NAME LIST” を参照してください。
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REF. NO.	PART NO.	カンリ NO.	DESCRIPTION
1	83-ZG2-202-51K		O-SERT S ASSY,S
2	83-ZG2-204-419		GEAR,A
3	83-ZG2-205-219		GEAR,B
4	83-ZG2-220-01K		GEAR MOTOR 2
5	83-ZG2-207-119		SHAFT,SLIDE
6	87-070-109-019		KSS 212A,PICKUP UNIT
8	83-ZG2-222-01K		TURN TABLE,A5
A	87-261-032-219		SCREW V+2-3

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER
サージサプレッサ	SERGESUPPRESSOR
セラコン	CAP,CERA

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL
ジグアーム	ARM,SHAFT
ジグガイド	GUIDE,SHAFT
ストラップ	STRAP
トクナベ	S-SCREW
ヒンジ	HINGE
ヒンジビス	S-SCREW
ビスセレート	SCREW,SERRART